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ABSTRACT

The objectives and functions of the primary school in Tanzania, Africa, are evaluated and analyzed in terms of the agricultural needs and employment of the residents. The document includes discussions on the people, the land, Mwanza Township (the area under study), migration (causes and consequences), influences of primary education on migration, productivity in peasant farming (cotton-growing methods), the Bukumbi credit union, and the Usagara block cultivation scheme. The last chapter presents conclusions on the observable effect of primary education on economic behavior. Maps, charts, and graphs are included in the body of the document. The appendices include statistical data collected and the tests used in the study. [Not available in hard copy due to marginal legibility of original document.] (DB)

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DEVELOPMENT AND EDUCATION IN THE MWANZA DISTRICT (TANZANIA)

A CASE STUDY OF MIGRATION AND PEASANT FARMING

PROEFSCHRIFT
TER VERKRIJGING VAN DE GRAAD VAN DOCTOR IN DE
SOCIALE WETENSCHAPPEN AAN DE RIJKSUNIVERSITEIT TE
UTRECHT, OP GEZAG VAN DE RECTOR MAGNIFICUS,
PROF. DR. J. LANJOUW,
VOLGENS BESLUIT VAN DE SENAAT IN HET
OPENBAAR TE VERDEDIGEN OP VRIJDAG 20 SEPTEMBER 1968
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Glossary

Bakwilima	Young men, accompanying the bridegroom to his father-in-law's homestead.
Banamhala	Members of the old men's society in the village.
Banangoma	Council of elders to the chief.
Basumba	Members of the society of young men and girls in the village.
Buyobe	The custom of cultivating land with the help of neighbours.
Catena	A distinct sequence of soil types on the slopes of the hills.
Chama	Society or association.
E.A.R. & H.	East African Railways and Harbours.
Gunguli	Administrative unit with a headman in charge, consisting of several *shibanda*.
Ibambasi	Hardpan soil, occurring between *Mbuga* and *Itogoro*, especially in the upper part of the valleys.
Ibushi	A calcareous chocolate loam or a friable *Mbuga*, of rare occurrence in Bukumbi subdivision.
Ikurusi	A rich loam, only produced from metamorphic rocks, of rare occurrence in Bukumbi subdivision.
Ilika	Cultivating society.
Isanga	Pale sandy soil, similar to *Luseni*, seepage area.
Itongo	Used in Bukumbi to describe the site of an abandoned homestead.
Itogoro	A grey cemented lower colluvial soil.
Kibanda	Administrative unit with a subheadman in charge, consisting of one or several *nzengo*.
Kikungu I	A red skeletal soil formed directly on granite.
Kikungu II	A red mature soil with an ironstone or ferricrete layer above the decomposing granite.
Kilaba	Piece of land cultivated by a member of the household.
Kilugu	cf. *Itongo*.
Kisumba	Society of young men and girls in the village.
Luguru	Term used by Harris (mimeo 1966) to describe dark gritty soil near granite outcropping.
Luseni	Pale coloured upper colluvial soil, generally without a definite concretionary horizon.
Mbuga	Dark coloured soil of the valleys.
Nduha	Used in Northern Sukumaland to denote all red soils, in particular Kikungu I and II.
Nsumba ntale	Leader of the *Kisumba*.
N.U.T.A.	National Union of Tanganyika Workers.
Nzengo	Smallest residential unit larger than the homestead. Village in the sociological sense.
Sesa	The scraping off of the weeds, shortly before ridging.
Shamba	Field.
Shibanda	Plural of *kibanda*.
Striga	Witchweed (striga helmontica).
Ugonjwa	Illness.
Utani	Special, generally joking, relationship.
V.F.C.U.	Victoria Federation of Co-operative Unions.

CHAPTER I

INTRODUCTION

1. *The subject.* The present study forms part of a series of six reports, based on the findings of a research project undertaken by the Centre for the Study of Education in Changing Societies (Amsterdam). The project as a whole centred round the role and the effect of primary education in a modern African society. The field work was carried out from January 1965 to April 1967 in the Mwanza district, Tanzania, by a team of six members representing different fields. Each team member concentrated on one or more specific topics related to the general theme of the project as a whole.

The members of the team, other than the author were:

- Mr. L.F.B. Dubbeldam, sociologist, who made a study of various school sociological aspects, including the position of the primary school teacher.
- Mrs. A.C. Grol-Overling, educationalist, who dealt with the methods and techniques of school education.
- Mr. J. Kaayk, psychologist, who specialized on the psychological effects of primary education on personality.
- Mr. P.B. Renes, educationalist and anthropologist, who studied a teacher training centre in the research area.
- Miss C. Varkevisser, anthropologist, who collected material on the cultural background of the population and later concentrated on the early home education of the child.

The task of the present author was to make a study of the economic development in the area and to assess the observable effect of primary education on economic behaviour. The relevance of this topic is obvious. Like many other developing countries, Tanzania spends some 20 per cent of the total government revenues on educating its youth. of which primary education consumes by far the greatest portion. All hopes are set on education as an instrument promoting rapid economic development. Money is a scarce resource everywhere in the world, but this holds perhaps even more true in the "tiers monde". From this angle the huge investments in "human capital" through primary education can only be justified, if the school really functions as an effective instrument of economic and social change.

Naturally a choice had to be made among the many research topics which the earlier mentioned task demands. The main parts of the investigations were:

- The conducting of three general surveys, to provide the necessary background data.
- An analysis of the nature of migration and of the size of the labour market.
- A study of peasant farming, with emphasis on cotton growing practices.
- A study of a credit union and a mechanized block cultivation scheme, both located in our research area.

One of the functions of the primary school, from an economic point of view, is to prepare a number of its pupils for further education in secondary schools, in order to satisfy the requirements for middle- and high-level manpower. In practice, especially in the higher standards, all efforts are at present directed towards success in the general entrance examination, which opens the door to the secondary school. Secondary school education has become the chief object of parents, children and teachers in the primary schools. The teachers and the school tend to be judged according to the percentage of "passes" in the general entrance examinations. Yet, only about 15 per cent of the pupils can actually be admitted to a secondary school or to one of the few vocational training schools still open to primary school leavers. All others must either find paid employment in the modern sector of the economy, or turn to peasant farming for their living. Broadly speaking, the first possibility means migration from the village to an urban area, in search of a job. In chapters V and VI the nature of this migration and the job prospects offered by the labour market are discussed. Special reference is made to Mwanza town, the urban centre of Mwanza district.

In view of the relatively small size of the labour market, and even the major decrease in the number of job openings since 1961 in the country as a whole, the chances to secure paid employment of a permanent nature are poor. Hence, the chief outlet for primary school leavers and other young people with less or no school education at all, is peasant farming. A job in town remains all the same attractive, notably in view of the income disparities which exist between the rural areas and the towns. Not surprisingly therefore, many people and especially the primary school leavers sometimes repeatedly try their luck in town. Most of them, however, are forced to return after a short time. In view of these facts, it becomes important to register what the attitudes of the primary school leavers are towards paid employment and peasant farming. As the results of a job preference test (chapter VI) indicate, there exists, perhaps contrary to expectation, no strong resistance against farming among the great majority of the school leavers.

This poses the question, how the school functions in the sphere of local development, in particular the contribution of the primary school leavers towards greater productivity in peasant farming. Already many young school leavers are engaged in farming and their number will undoubtedly greatly increase in the near future. In chapter VII we have tried to establish some facts in this respect, by comparing the cotton growing methods (a very important criterium for the final yields) of some 300 cotton growers of varying educational level.

Additional material is provided by the data collected on a credit union and on a mechanized block cultivation scheme, both fairly new institutions in our research area (chapter VIII).

In a final chapter an attempt will be made to set out some implications of our findings, in particular with regard to a possible greater effectivity of primary school teaching for the agricultural development in the local community.

2. *The choice of the research area.* The original plan of the Centre entailed a study in Tanzania, preferably in an area which presented a culturally fairly homogeneous population, but economically a more divergent situation, within a reasonable distance: The plan envisaged research in a middle sized town, in a peasant society engaged in growing cash crops and thirdly in an isolated village with an almost pure subsistence economy. This plan proved too encompassing and the third element had to be dropped.

Looking for a suitable area, it soon became apparent that Mwanza district, with its centre Mwanza town, presented almost ideal conditions. The area – and the surrounding districts – is inhabited by the Sukuma who derive an important part of their income from cotton growing. Since 1950 the cotton production has increased tenfold. Mwanza town, with a population of more than 25,000 Africans, is a real centre of commerce. Although only a quarter of the urban population is Sukuma, their number is still sufficient to allow meaningful comparisons between them and the Sukuma in the rural area (viz. in the field of home education, attitudes of the primary school leavers, the economic situation in general). Last not least, the fact that the Mwanza Diocese offered ample accommodation to the team must be mentioned. This accommodation was the Nyegezi Social Research Institute, at about five miles south of Mwanza town. From there it was only ten miles to Bukumbi subdivision, with a peasant population actively engaged in cotton growing, which we selected as the rural area for our investigations. The all-weather road from Mwanza town to Tabora (Dar es Salaam) passes through the subdivision, so that it was also in easy reach during the wet season.

3. *Background material.* In chapters II and III the necessary background data are provided for Bukumbi subdivision. Similarly chapter IV contains a short description of Mwanza town. In the case of Bukumbi subdivision much attention has been given to such aspects as land tenure and the agricultural system in general, in view of the subsequent chapter on the cotton growing techniques employed by the peasants. Anthropological material has only been included where it appeared indispensable for the understanding of the text. For a full account of this part of the background data we refer to the forthcoming study by Miss C. Varkevisser and to the existing literature, given in the bibliography.

There exists a great amount of literature about this part of Tanzania. Unfortunately, some of the most valuable material – in particular about the soil types and the farming system – is only locally available in the form of unpublished manuscripts or mimeographed reports with a limited circulation. Many of these sources formed an important basis for this study, especially for chapters II and VII. Special mention should be made of the work of M.P. Collinson, at the time agricultural economist at the Western Research Centre Ukiriguru. He conducted several farm economic surveys, inter alia in Bukumbi subdivision.

4. *General surveys.* Two surveys were conducted in Mwanza town and one in Bukumbi subdivision, to provide additional material about the population. The most relevant results have been included in the body of this report, mostly in the form of tables and figures. Other data and cross correlations obtained had to be omitted, in order not to extend unduly the chapters dealing with the description of the research areas. Part of this material has, however, been given in appendix II and III.

5. *The surveys in Mwanza town.* The survey techniques employed deserve some comment, also because the method adopted in Mwanza town differed from that applied in Bukumbi subdivision.

The first survey in Mwanza town was conducted from March to April 1965. When the team first arrived in Mwanza, it was soon learnt that the department of Community Development in Mwanza region (regional community development officer then Mr. K. Minja), together with the Mwanza Institute of Adult Education (resident tutor then Mr. J. Swarbrick) and the Nyegezi Social Training Centre (director Rev. J. Lavoie, lecturer sociology Rev. W. Moroney) intended to do a small scale literacy survey in Mwanza town. It was obviously undesirable to conduct two very similar surveys at approximately the same time and so a close co-operation was established.

It was decided to enlarge the survey and to aim at a 10 per cent random sample of the total African population. We could base our sample on the existing 1 : 2,500 map of the township (ed. 1963, based on aerial photography in 1962). This map provided, if not a theoretically perfect basis, the best substitute that could be hoped for in African conditions. In order to test its reliability one of the nine sheets (Mwanza south, where most changes were expected) was checked. It was found that only about two per cent of the mapped houses had disappeared since 1962. A comparable number of new houses had been built. Later, during the execution of the survey, all selected houses in the whole town which were found demolished etc. were replaced by newly built houses, as far as possible in the same area.

Then all "private buildings" shown on the map were numbered. Of these 10 per cent were selected by means of a random list (Fisher & Yates, 1963, p. 134-6). A questionnaire was drafted, translated into Kiswahili and tried out during a pilot survey in a nearby village.

Furthermore there was the problem of informing the population of the forthcoming survey. This could effectively be solved by organizing a number of open-air film shows in the different wards of the township. The department of Community Development kindly made its mobile film unit and staff available for this purpose.

The actual interviewing was done by students of the Nyegezi Social Training Centre and students of Chopra- and Lake Secondary school. Our own assistants in particular dealt with non-response, refusals to answer questions etc. For help in the supervision of the interviewers I am indebted to the other members of the team and to the Rev. W. Moroney. All together 1,777 persons (952 males and 825 females) were interviewed, all aged ten and over. Non-response, mostly due to absence, could be kept at some five per cent.

The answers were coded and later processed at the East African Institute of Social Research at Kampala (Uganda), by means of sorting equipment. For this part of the work I am indebted to Mr. Dubbeldam, who assisted in the tedious coding work and later went to Kampala for the mechanical processing.

The second survey in Mwanza town was conducted six months later and organized in almost exactly the same way. Use was made of the same sample, so that some insight could also be obtained in the mobility of the town population. This time 1,808 persons (960 males and 848 females) were canvassed, whereas non-response amounted to seven per cent. This percentage is somewhat higher than in the first survey. The cause is that towards the end of the interviewing the police began to round up unemployed and prostitutes, which action many people connected with the survey. We therefore thought it better to terminate the interviewing.

5. *The survey in Bukumbi subdivision.* No detailed maps were available for this area. We had, however, the aerial photographs so that a reliable sketch map could be made. Problems

of supervision and the restricted amount of time available for the survey made it inadvisable to adopt an area sampling method, also in view of the pattern of habitation (cf. p.32). We finally decided to select a number of villages, spread over the whole subdivision and to interview all inhabitants aged ten and over living there (cf. table III - 2 and map 4). For the interviewing we were helped by the 2nd year extension students of M.A.T.I. Ukiriguru.

Also in Bukumbi a number of open-air film shows could be organized with the help of the department of Community Development, so that the people were aware of the aims of the survey. Besides, a meeting was held with the headmen and the members of village development committees. Before the inhabitants of a selected village were interviewed, the headman was informed. He in turn would tell the people and, if necessary, give additional information.

The actual interviewing took place in May and June 1965. All together 2,087 people (1,046 males and 1,041 females) were canvassed, i.e. some 20 per cent of the total population of Bukumbi subdivision. Some kind of break-down was introduced: Among the selected villages was Usagara, the chief "minor settlement" and trading centre of the subdivision. Furthermore, the labourers living in the labour camp of the Ng'walugwabagole ginnery and two villages with a partly non-agricultural population were included, against ten almost purely agricultural villages (cf. table III-2).

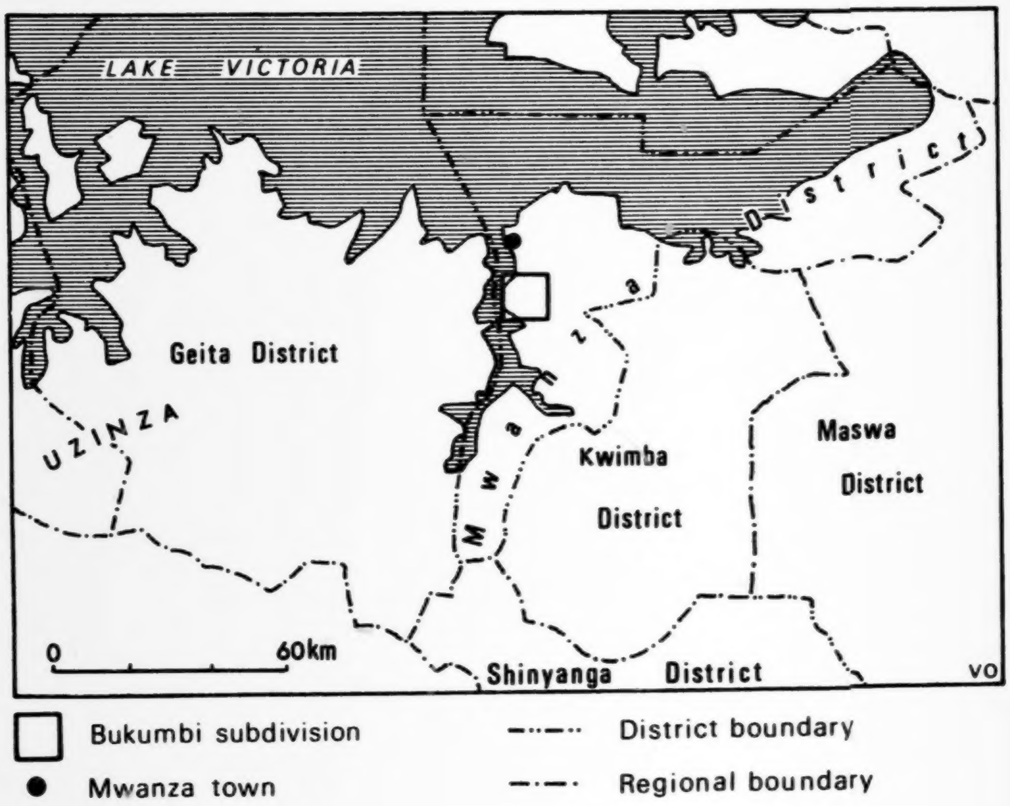
CHAPTER II

THE SETTING, BUKUMBI SUBDIVISION: THE LAND

1. *Location and administrative divisions.* The Sukuma, by far the largest among Tanzania's tribal groups, at present probably number about 1,400,000 [1]. They occupy the area south of Lake Victoria which is administratively divided into two regions: Mwanza region, with Mwanza-, Kwimba- and the greater part of Geita district inhabited by the Sukuma, and Shinyanga region, with Shinyanga- and Maswa district, in all roughly 17,000 square miles (cf. map 1). Each district is made up by several divisions, which in turn comprise of a number of subdivisions, the boundaries of which usually coincide with those of the former chiefdoms in Sukumaland. Bukumbi subdivision, where most of our research in the rural area has been concentrated, forms part of Nyanza division, in the western half of Mwanza district.

2. *The landscape.* On the whole, the landscape of Sukumaland is fairly homogeneous. Dusty yellow or beautifully green, depending on location and time of the year, the area forms part of the plateau between the western and eastern rift valley, with an altitude generally varying between 3,700 and 4,500 feet. The topography is little pronounced. Only occasionally the monotony of the undulating plains is broken by a wooded granite ridge or outcropping.Speke (1864, p. 359-60) described his impressions, after his famous journey to Mwanza, as follows: "I can think of no better comparison for the surface of this high land than the long sweeping waves of the Atlantic Ocean; and where the hills are fewest, and in lines, they resemble small breakers curling on the tops of the rollers, all irregularly arranged, as though disturbed by different currents of wind. Where the hills are grouped they remind me of a small chopping sea in the Bristol Channel". More recently Rounce (1949, p. ix) aptly, if less poetically, coined the term "Cultivation Steppe" for this part of

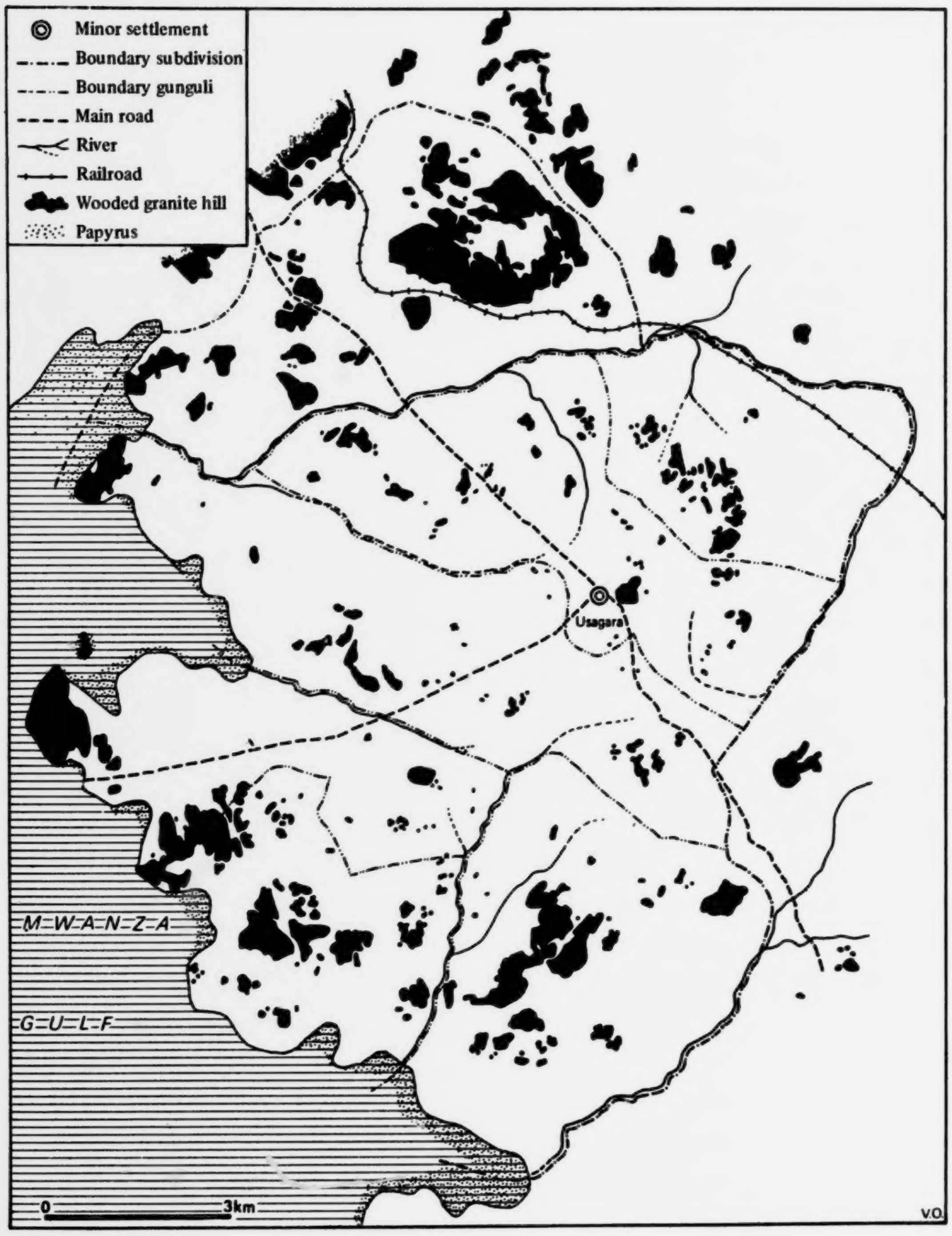
Map 1· Location of research areas


LAKE VICTORIA
Geita District
UZINZA
Mwanza District
Kwimba District
Maswa District
Shinyanga District
0
60km
VO
Bukumbi subdivision
Mwanza town
District boundary
Regional boundary

Tanzania. And indeed, the original vegetation has almost completely disappeared, giving way to an irregular pattern of heavily cultivated fields, alternating with lower lying grazing flats. In many parts of Shinyanga region scattered baobab trees form the most conspicious element of the landscape. Towards the north their place is taken by thickly leaved mango trees. The western part of Geita district, the main frontier zone of the expanding Sukuma, is covered with miombo woodland, an indication not only of a lower population density, but also of different soil types and underlying parent rock.

In the vicinity of Mwanza town the scenery is rather different again from the rest of Sukumaland. The granite outcroppings are much more frequent, the hillsides are steeper and the valleys narrower. Travelling by road from the south, one soon enters Bukumbi subdivision (cf. map 2). A little later the corrugated sandy surface of the main road connecting Mwanza town with Tabora and Dar es Salaam changes into more comfortable macadam. Here Usagara is reached, a minor trading centre and the geographic heart of Bukumbi subdivision, situated at about 14 miles from Mwanza town.

Map 2: Bukumbi subdivision


Minor settlement
Boundary subdivision
Boundary gunguli
Main road
River
Railroad
Wooded granite hill
Papyrus
Usagara
M-W-A-N-Z-A
G-U-L-F
0
3km
V.O.

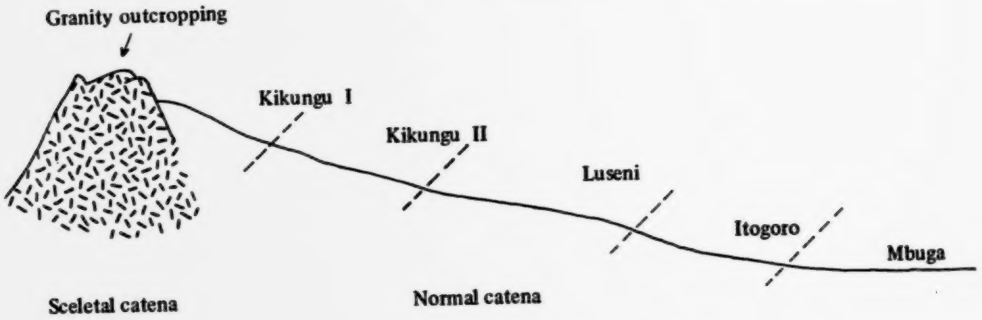
3. *Relief and soils.* The "chopping sea" character of the landscape, with its more pronounced relief is undoubtedly one of the main features of Bukumbi, in comparison with the rest of Sukumaland. Apart from the beautiful scenery it provides, this topography is of no small consequence for the agricultural system. Here, on the slopes of the hills the Sukuma have adopted a semi-permanent form of soil husbandry, using five feet wide ridges, (ideally) aligned on the contour. From a point of view of soil erosion control this system is perfectly suited for these light hill sands. Furthermore it provides an excellent weed control, as the peasant can easily pass between the ridges. On the other hand, this system has prevented the adoption of ox ploughs. Flat cultivation is obviously undesirable because of the inherent dangers of increased soil erosion. An ox ridger has been developed, capable of making three feet wide ridges, which is the maximum oxen can possibly accomplish. But the introduction would imply a complete realignment of the fields ridged in the traditional way. Consequently Bukumbi – and the surrounding region where a similar relief prevails – has remained a typical hand cultivation area, whereas in some other parts of Sukumaland, particularly in Shinyanga region where flat cultivation is possible, the ox plough has successfully been introduced [2)].

It has long been recognized that from the top to the bottom of the hillsides there is a distinct sequence of soil types or *catena* present (cf. Milne, 1947). This fact is of great importance, since both crop- and animal husbandry practices, the traditional land tenure system with its fragmentation of holdings and even the pattern of habitation, are to a great extent determined by it.

A *catena* is usually regarded as consisting of mature eluvial, colluvial and illuvial soils. Especially in this part of Mwanza district, however, the situation is often complicated by the presence of a granite outcropping above the normal eluvial site, so that considerable amounts of water and material are added to the lowerlying soils. The result in these cases is a *catena* which actually consists of two parts, a skeletal part with immature soils and lower down the hillside a somewhat modified normal *catena*.

The Sukuma are fully aware of the differences between the various parts of the *catena* and have their own terminology to denote the different soils which is, according to Fuggles-Couchman (1964, p. 11) "a unique occurrence in Tanganyika". Unfortunately these names are not the same in all districts, which has led to some confusion in the available literature on the subject, where different names are used for the same soil type. We shall follow Morison and Wright (mimeo 1951), who gave the following outline of a catena with a granite outcropping:

Figure 1: Outline of a catena with granite outcropping according to Morison and Wright (mimeo 1951)



They mentioned the following characteristics of these soils (cf. map 3):

Kikungu I : A red skeletal soil containing large quantities of unweathered felspar, formed directly on granite.

Kikungu II : A red mature soil containing only large fragments of felspar in small numbers, with a well developed ironstone or ferricrete layer above the decomposing granite.

Lusenye(Luseni) : A paler coloured upper colluvial soil with a less definite concretionary horizon.

Itogoro : A grey cemented lower colluvial soil, with an indurated and cemented layer near the surface, and calcium carbonate concretions at depth.

Mbuga : Dark coloured soils, with calcium carbonate concretions near the surface or at depth, of an illuvial nature.

In northern Sukumaland *Nduha*, which term actually covers all red soils, is frequently used in stead of *Kikungu I and II*. In his description of the Ukiriguru *catena*, Calton (1963) used *Itongo* for *Kikungu II*[3].

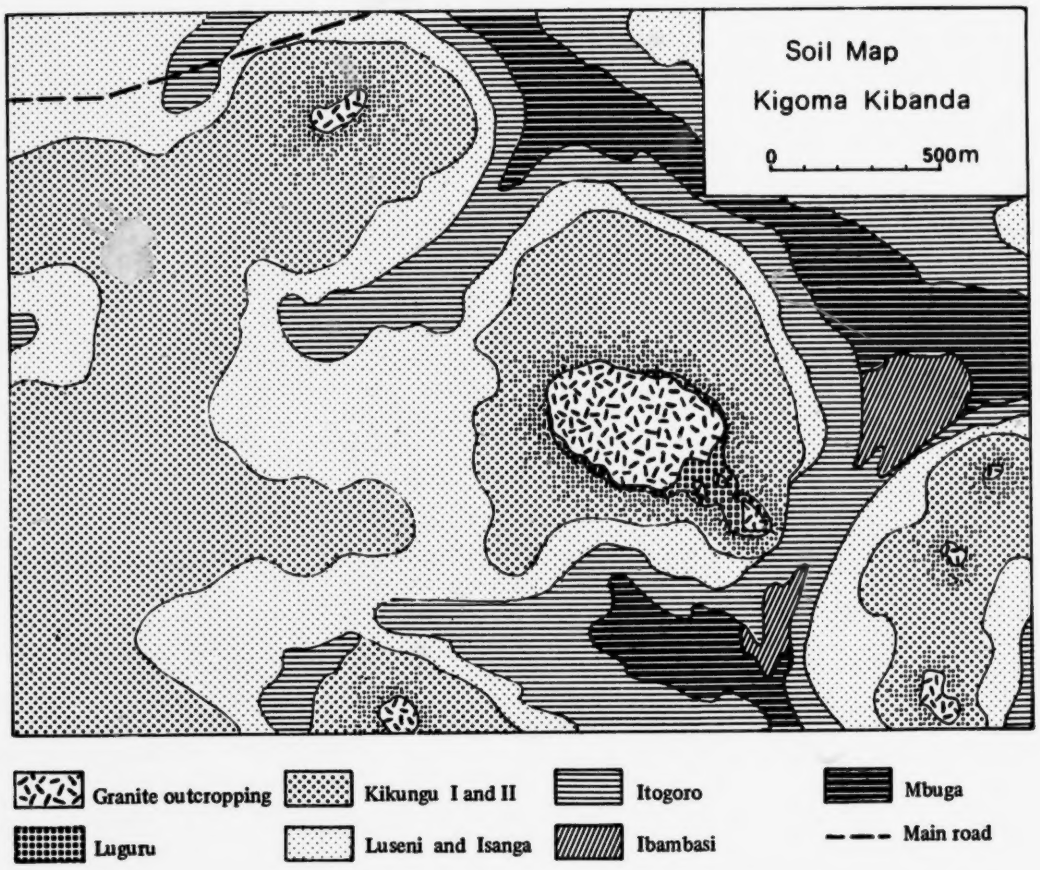
Malcolm (1953, p. 174-91) described many other soils in some detail e.g.:

Ikurusi : A rich loam, only produced from metamorphic rocks and therefore rare in Mwanza district.

Ibushi : Variously applied to a calcareous chocolate loam and a particularly friable *Mbuga*, but also of comparatively rare occurrence in this part of Sukumaland.

Ibambasi : This is a much more common soil, of which several varieties are recognized by the Sukuma. Some of these are fit for growing excellent crops of sorghum and maize, some are quite useless for cultivating purposes. These are all true hardpan soils, forming a transition belt between *Itogoro* and *Mbuga*, often in the upper parts of the valleys (cf. Morison and Wright, mimeo 1951 and map 3).

Map 3: Soil map Kigoma kibanda')



') For help in compiling this map I am indebted to M.A.T.I. Nyegezi (interpretation aerial photographs) and to Mr. J. Harris (field reconnaissance).

Isanga : Above the *Itogoro* zone a seepage area called *Isanga* occurs. The texture and colour of the soil are practically identical with *Luseni* (cf. Malcolm, op.cit. who used the term Isanga ya kinele for this soil type).

In addition three minor soil types deserve mentioning here. Uppermost in the immature part of the catena derived from granite, a dark gritty fine sandy loam is found, which might be called *Luguru* (Harris, mimeo 1966), although this Sukuma word actually refers to the granite outcropping itself. The soil has a very limited distribution and is confined to small pockets in and around the granite outcroppings.

For various reasons, a homestead may be moved to another site. Thus in former days, apparently for safety reasons, the homesteads of Kigoma *nzengo* (= village) were situated near the hilltop, whereas nowadays they are found downhill (cf. map 3 and 5). The old sites of the homesteads are more fertile than the surrounding fields, and considered very suitable for growing maize and cotton. They are variously denoted as *Itongo* or *Kilugu*.

The third minor soil type is Isegenghe, which term is used for a large deserted ant hill, capable of growing an excellent maize crop.

The hill sands (*Luguru, Kikungu I* and *II, Luseni* and *Isanga*) are easy to work and therefore extensively cultivated wherever they occur. The same is true of *Ikurusi, Ibushi* and the three above mentioned minor soil types. In general, fertility decreases down the slope, to reach its lowest point in *Luseni*. Also the other soils used for cultivation and especially the *Kikungu* of a mature catena without granite outcropping, may be highly leached, chiefly due to long and intensive use. Unfortunately *Luseni* and *Kikungu II* are the most widely distributed soils used for cultivation in this part of Mwanza district. Despite its low fertility, more than half the acreage under cultivation in Mwanza district is on *Luseni* (Rounce, 1951). This may help to explain the high proportion of rootcrops to cereals here: *Luseni* is considered best suited for cassava. Moreover, suitable *Mbuga* soils in which sorghums excel are largely absent.

The hardpan group (*Itogoro* and *Ibambasi*) is much less tractable and consequently only rarely cropped. On small patches, surrounded by primitive banks, rice may be grown. In addition, small plots of *Itogoro* may be used for sweet potatoes, bananas, tomatoes and vegetables.

Like the *Itogoro* and *Ibambasi* soils, the main use of the *Mbuga* is for grazing. Whether cultivation of this soil type is possible or not, mainly depends on the availability of water and its liability to flooding. In 1945 only 5.4 per cent of the land under cultivation in Mwanza district was *Mbuga*, whereas e.g. for Shinyanga district the corresponding figure was 35.0 per cent. The percentage recorded for Bukumbi and the neighbouring Bunegezi chiefdom was even lower, namely 0.5 per cent 4).

Malcolm (op.cit.) and Rounce (1949, p. 10) have pointed out that most soil types are considered suitable by the Sukuma for a limited range of crops only. Therefore each farmer will strive to obtain plots spread over the whole catena, which has obviously resulted in a fragmentation of the holdings. In this part of Mwanza district the catena covers only a geographically limited area, due to the more pronounced topography. Under the traditional system of hand cultivation there is no appreciable loss of labour productivity as the fields need not be far away from the homestead. Cultivation by hand has a very high labour intensivity. It takes e.g. twenty man days to get one acre of cotton planted on the ridges.

4. *Soil erosion*. Already before 1940 the increasing pressure on the land in the "old" areas of Sukumaland, of which Bukumbi forms part, caused great concern among agriculturalists for its effect on soil fertility and erosion. Studies undertaken indicated that the shifting cultivation formerly practiced on the hill sands had already given way to a more permanent

form of land use, with greatly reduced fallow periods. In dry years, towards the end of the dry season the heavily stocked grazing areas in the south and east looked much like a desert. As early as 1934 the government consciously began to promote migration to the as yet largely unoccupied areas of Sukumaland's periphery, by assisting in tsetse clearing and the provision of water in waterless areas. There seemed to be ample reason for concern. According to the famous "Sukumaland equation" (cf. Rounce, 1949) no more than 112 people could be permitted to occupy one square mile. Otherwise a serious deterioration of soil fertility and soil erosion would follow. Already before the second world war, in parts of Mwanza- and Kwimba district the actual population density was more than twice this figure.

After the war the Sukumaland development scheme was launched, which marked another co-ordinated effort in the same direction. After his reconnaissance journey Milne (1947) had already reported: " . . . no pains should be spared in preserving the remnant zones of red earths and maintaining their fertility. . . The soil is travelling downhill, changing its fundamental characteristics as it occupies successively lower positions. Thither inevitably the cultivator must follow, changing his methods just as fundamentally in adaptation to the changing soil conditions" 5). Attempts were made to persuade the peasants to move away from the light hill sands. Plans were drawn up for mechanical cultivation of the lower colluvial soils and the *Mbuga*. The general opinion of the agriculturalists at the time was voiced by Rounce (1949): "It is no exaggeration to say that if the steady deterioration of our soils is not soon halted, famine will become more and more of an annual occurrence". The failing rains and the resulting famine of that same year forcibly underlined his words, when probably close to a third of the total cattle population of Shinyanga region died. In the next ten years more than £ 1.5 M were spent over and above the recurrent expenditure on normal services 6). If necessary with the help of heavy equipment, new dams and tanks were constructed (cf. Malcolm, 1953, p. 149-73). A destocking programme aiming at a five per cent offtake per annum was initiated in 1951. The Native Authorities, since 1947 unified in the Sukumaland Federation, enforced soil conservation methods, which amongst others included the use of farmyard manure and tie-ridging.

The expansion part of the scheme was undoubtedly a great success. It has been estimated that between 1947 and 1956 the Sukuma expanded their inhabited territory by some 50 per cent, partly also in the until then unoccupied parts of Kwimba- and Shinyanga district. Unfortunately the herds increased at almost the same rate, whereas the population grew by 23 per cent in the same period. The rehabilitation and intensification programmes were much less popular. Especially destocking and tie-ridging were widely resented. Fines were levied by the Native Authorities and at times control resembled a police operation rather than agricultural extension. Resistance grew and became more articulate. By 1957 the enforcement of soil conservation measures had become politically impossible, leaving the Sukuma peasants with a deep rooted distrust of the agricultural extension services.

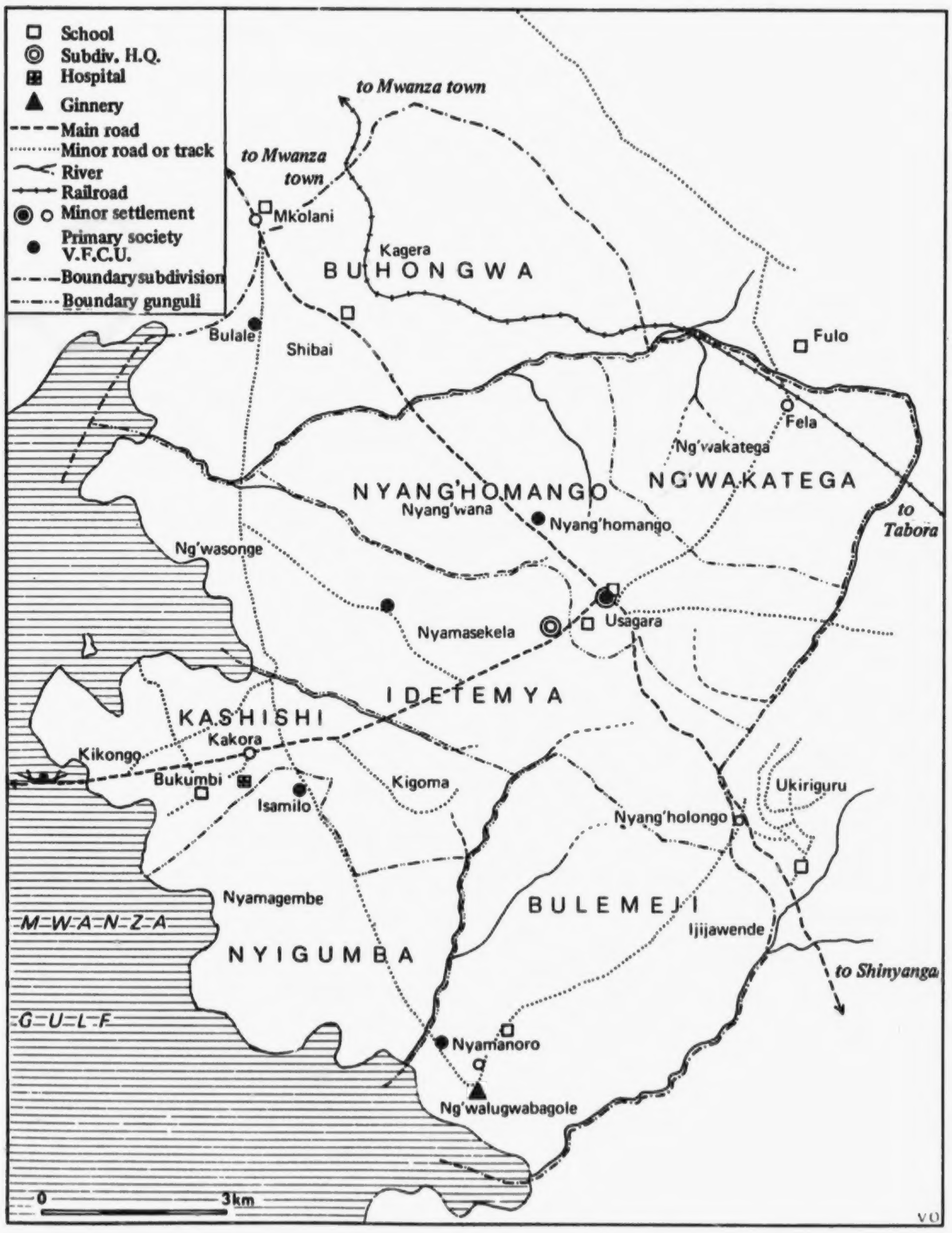
This raises the question, whether the situation was really so serious, to warrant these compulsory and unpopular measures. The magnitude of the soil erosion problem is certainly not the same for all soil types. In fact the hill sands derived from granite only rarely are badly eroded. Moreover, as Peat and Prentice (1949) admitted: "In Ibushi areas it (i.e. loss of soil) is a dead loss for all time, in the light soils it is, most luckily, remediable up to a point". Morison and Wright (mimeo 1951) who made an extensive survey of the soils in Sukumaland reported: "We saw, however, few signs of such accelerated and man made erosion as we had been led to expect and nothing which showed anything like the same devastation as at Kondoa Irangi".

At least in and around Bukumbi subdivision it would appear that soil erosion does not at present constitute a grave danger. Both gully- and sheet erosion occur, but do not cause extensive and lasting damage. Even on the steepest slopes the gullies are characteristically narrow, normally only about two feet wide, with hard vertical sides. Their depth is limited by the ironstone layer, mostly found at three feet or less below the surface. In places outwash fans may form a gritty and unfertile cover, but often the plants have sufficient strength to reach the more fertile buried topsoil (Harris, mimeo 1966). In a survey among 301 farmers, we noticed some recent loss of soil in 95 cases, generally caused by a poor alignment of the ridges. With one exception, however, the damage was unimportant. Significantly, only 30 peasants had their ridges tied and then only in places and at fairly wide intervals.

Nevertheless, even a very moderate erosion rate cannot be allowed to continue indefinitely. If actual loss of soil is a relatively unimportant feature in Bukumi, much water runs off without being used. This is notably the case in January and February. These months are already precarious as to the total amount of precipitation which then, moreover, tends to fall in localized thunderstorms. More than ten years have passed since the subject of soil conservation was quietly dropped in agricultural extension. It should be possible now to reintroduce it carefully, in farmers courses, reading matter etc.

5. *Roads.* Bukumbi subdivision is fairly well served with roads and tracks (cf. map 4). Mention had already been made of the road connecting Mwanza town with Tabora and Dar es Salaam, which passes through the subdivision. At Usagara this road is joined from the west by another major road, which connects Mwanza with Geita district, Bukoba (West Lake region) and Uganda. From Kikongo a regular ferry service operates across Mwanza gulf. In addition there are several minor roads and tracks which may, however, be impassable during the greater

Map 4: Bukumbi subdivision, administrative division


School
Subdiv. H.Q.
Hospital
Ginnery
Main road
Minor road or track
River
Railroad
Minor settlement
Primary society V.F.C.U.
Boundary subdivision
Boundary gunguli
to Mwanza town
to Mwanza town
Mkolani
Kagera
BUHONGWA
Bulale
Shibai
Fulo
Fela
Ng'wakatega
NYANG'HOMANGO
NG'WAKATEGA
Nyang'wana
Nyang'homango
to Tabora
Ng'wasonge
Nyamasekela
Usagara
IDETEMYA
KASHISHI
Kakora
Kikongo
Bukumbi
Isamilo
Kigoma
Ukiriguru
Nyang'holongo
Nyamagembe
BULEMEJI
Ijijawende
MWANZA
NYIGUMBA
to Shinyanga
GULF
Nyamanoro
Ng'walugwabagole
0
3km
VO

part of the wet season. This does not cause great inconvenience, since these roads are mainly used during the cotton season from June to November i.e. before the "long" rains. In the south western part of the subdivision, Ng'walugwabagole ginnery is connected with the main road Mwanza – Tabora and, towards the north, with the road Usagara–Kikongo. Between Usagara and Fela runs another similar road which is, however, in bad repair. A few years ago the bridge behind Fela, across Nyashishi river, was swept away by a torrential current and with it went Bukumbi's connection with the east (a part of Kwimba district). The *Mbuga* can only be used in the dry season, when the Nyashishi has dried up. Apart from the roads already mentioned, there are a large number of tracks, often built by the villagers themselves, to facilitate the transport of their cotton to the co-operative societies.

6. *The rainfall pattern and the agricultural year.* The average annual rainfall in Sukumaland is about 30". This amount is somewhat higher in the north-west (Geita district), but decreases further inland both in quantity and, even more important, in reliability.

The agricultural activities in the area are governed by the rainfall distribution over the year. The potential evapotranspiration has been calculated at 45" per annum (Calton & Muir, undated MS). Since the average total rainfall is well below this figure, cultivation is only possible because there is a clear demarcation between a wet and a dry season:

Table II-1: Recorded rainfall in inches at the Western Research Centre Ukiriguru

	Average 1931-'63	Season 1964-'65	Season 1965-'66
October	1.80	1.72	3.61
November	4.12	1.41	5.06
December	4.21	8.13	6.66
January	3.94	1.32	2.74
February	3.37	4.44	3.94
March	4.85	3.48	12.90
April	5.42	4.04	6.12
May	2.87	1.87	.94
June	.37	.09	.13
July	.05	–	–
August	.43	–	2.00
September	.85	.07	3.82
Total	32.28	26.57	47.92

These rainfall figures may be regarded as typical for Bukumbi, since Ukiriguru is located just across the border of the subdivision (map 4).

Owing to its location close to Lake Victoria, Bukumbi has for the most part escaped the famines which occur at irregular intervals in other parts of Sukumaland. Hendricks (1959, p. 14-5) mentioned 1815, 1840, 1875, 1882, 1890, 1894, 1897, 1914, 1919, 1934, 1938, 1943, and 1948 as years of exceptional drought in Sukumaland. Each of these years is remembered by a special name, viz. Nzala ya gogo (= 1890, gogo is a kind of cucumber). Even so, as table II-1 demonstrates, there are major variations in the rainfall and especially the early maize crop may fail due to insufficient rain. November is called Lubingo (the start) by the Sukuma and marks the beginning of the agricultural year, as Kikudu, the wet season, begins. The dry period, from May to October, is called Chu (Cory, undated MS).

7. *The land tenure system and its present trends.* As the traditional land tenure system has already adequately been treated by several authors [7], a few notes on the subject, with special reference to recent developments may suffice here.

Like in most other African societies, the system of land tenure was, and still is, based on usufructuary rights of occupancy rather than freehold. The traditional notion saw the chief as the "absolute owner of all the land" (Malcolm, 1953, p. 20), but this should naturally be interpreted within the limits of the accepted views about the meaning of this "Ownership". The chief's rule was in the first place subject to the control of his *Banangoma* (council of elders to the chief), who could depose him if he abused his powers. "The ultimate right of external disposal was inconceivable and was therefore non-existent" (Malcolm, op.cit. p. 25). As the population grew more numerous, the actual rights of cultivation control became vested in the headmen, as the chief's representatives.

The allocation of land to newcomers is, even after the abolition of chieftainship, still the prerogative of the headmen. But nowadays they share this responsability with the Village Development Committees, a new institution at *gunguli* level (cf. p.32). It should be noted, however, that a newcomer requires the consent of the village community in which he wishes to settle. A meeting will be convened in which the headman, the members of the Village Development Committee of the *gunguli* concerned, a number of *banamhala* (members of the old men's society) and the *nsumba ntale* (the leader of the young men's society) of the *nzengo* in which the applicant wants to live, take part. Only if the decision taken at this meeting is favourable, will the vacant land be allocated. Now that land has become scarce, a payment of shs 200/- or more to the headman and a few shillings for beer for the members of the Village Development Committee has become a common, if illegal practice in Bukumbi.

Moving house within the rural area of Sukumaland is extremely common. Wright (mimeo 1952) reported that in the three villages of Kwimba district which he studied, there was "not one family which claims to have occupied their land for more than the lifetime of the parents of the present occupant". In our Bukumbi survey only 40 per cent of all male respondents aged ten and over of the truly agricultural *shibanda* were born in the same *kibanda*. The occupancy of land is thus subject to constant change. There are several reasons why an already established peasant farmer may decide to move to another village and to vacate his holding. Purely agricultural reasons are a severe loss of soil fertility and infestation of the land with weeds, in particular *striga*, which enormously reduces the yields of millet and maize. Probably more often the direct reason for moving house is the fear of witchcraft. The death of several children, repeated serious illness and loss of cattle are some of the main signals. In such cases a nfumu (native medicineman) will be consulted who may, if witchcraft is found to be the cause, prescribe moving house in a specified direction to avoid further evil. The moving will then be effectuated during the night "with unknown destination".

According to the rules of inheritance the eldest son will take over the homestead and all the land belonging to it. The younger children may of course at first be given land to cultivate, but eventually, as the family of the eldest son grows bigger, they will have to find their own land elsewhere, unless there is sufficient land. This naturally leads to moving house. Similarly, the custom of brideservice results in, generally only temporary,change of residence. In our Bukumbi survey 5.2 per cent of the male respondents were living with their in-laws.

Formerly all houses in the village were regarded as *nzengo* property, controlled by the *nsumba ntale*. This was logical, since the houses had been built by the *Kisumba* society. A newcomer to the village (from any part of Sukumaland), would be allotted the land and the houses vacated by the previous occupant. But this is no longer so easy. Everywhere in Sukumaland modern houses are being built, with corrugated iron roofs and sometimes even with plastered mud brick walls and a cement floor. The labour to build a house, even if partly performed by the *Kisumba* society, is paid for in cash. These houses consequently represent a considerable investment and are looked upon as private property, to which the old rules no longer can apply. The newcomer will then have to buy the house from the previous occupant, which especially when the latter has left the village, may create problems. For this reason, and also because good farm land is increasingly difficult to obtain, moving house may in future become less frequent.

Good arable land has become very scarce in Bukumbi and the rapid expansion of cotton growing has certainly aggravated this problem. Many young peasant families do not have sufficient land. In Bukumbi, and elsewhere in the vicinity of Mwanza town, it is often impossible to borrow a field along the traditional lines, i.e. free of charge. Instead a system of land rent has emerged. For good land, suitable for growing cotton, like *Ibushi* and *Ikurusi* or *Kikungu I*, up to shs 60/- per acre is paid. It is of interest that the official T.A.N.U. and government policy 8) reject this practice. Land rent, except for leasehold plots given out by the government, has officially been abolished.

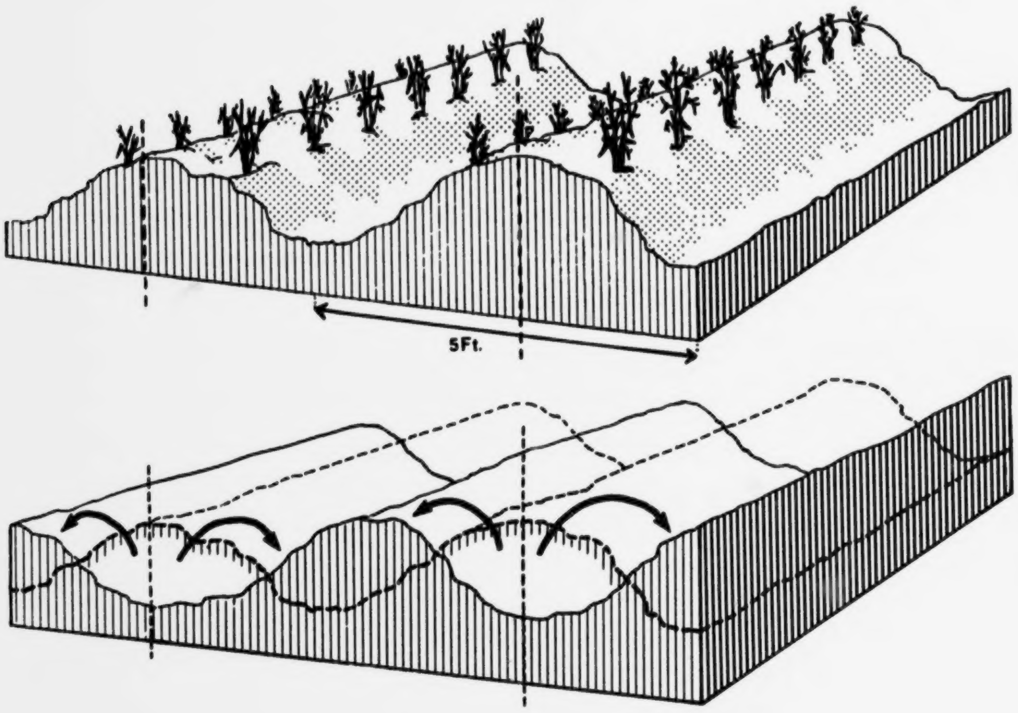
Similarly private ownership of land (freehold) is opposed. "Because the land belongs to the Nation, the Government has to see to it that it is used for the benefit of the whole nation and not for the benefit of one individual or just a few people" (Arusha Declaration, 1967, p.17). In the past President Nyerere has been equally outspoken on this subject: "... we oppose the freehold system ... What then is the genuine solution? It is that everybody should be given land under certain conditions .... It is leasehold land" (Nyerere, 1966, p.55-7). A further prerequisite is that "a member of society will be entitled to a piece of land on condition that he uses it" (Ibid. p.167). Registration of (leasehold) titles for the peasant farmers has not yet been undertaken in Sukumaland. In the light of the most recent developments, it seems questionable whether this step will be taken in the near future. In his latest publication "Socialism and Rural Development" (1967) President Nyerere has laid down some principles which, if brought into practice, will have a deep impact also on the land tenure system. The President proposed a system of group farming, on a village territorial basis: "The community would be farming and living as a group... The return from the produce of the farm and from all other activities of the community, would be shared according to the work done and to the needs of the members. ..." Although it is explicitly stated that also within these communities there must be room for private activities - also on the land - it is clear that group farming does not fit in well with individual leasehold titles on farm land.

The land allocated to the individual holdings under the traditional regime does not as a rule include the lowerlying soils of the *catena*, i.e. most of the *Itogoro, Ibambasi* and *Mbuga* soils, which are considered communal grazing land. These grazings are open to everyone and not only to the inhabitants of the village to which these soils belong. As far as Bukumbi is concerned, this probably means a distinct disadvantage for the development of animal husbrandy (cf. p.30).

8. *The farming system*. By far the greater part of the crops are grown on the hill sands in Bukumbi subdivision (cf. note 4 of this chapter). The only notable exceptions are rice and sweet potatoes, which often occupy small patches of the lowerlying *Itogoro* and *Mbuga* soils. But for rice, which is cultivated on the flat, all crops are planted on ridges, facilitating a good weed control and, if the ridges are properly aligned on the contour, excellent water and erosion control.

The first operation, locally called *sesa*, involves the scraping off the weeds from the old ridges into the furrows. After some time, when the weeds have died off, stockyard manure or artificial fertilizers may be spread out over the weeds in the furrows, though this is still far from common practice. The actual ridging is done next. This is the agricultural operation which, if done by hand, is the most demanding and labourious. Last year's ridges are split up to cover completely the accumulated weeds in the furrows on both sides of the old ridges.

Figure 2: The ridge in Sukuma cultivation and the system of making new ridges



Especially when the amount of rain has been insufficient, this is very hard work and in such a case the family may not manage the ridge the whole acreage planned for that season. Preferably the same day the crop is planted on the newly hoed ridges, to prevent the formation of a hard crust (cf. also Rounce & Thornton, 1939). The pure food crops occupy only a small portion of the fields, often they are grown on small plots near the homestead. The great majority of the food crops is grown as intercrops, with varying combinations, depending on the soil type of the field among other factors. Although it is difficult to speak of an "average" farmer, a typical Sukuma family would probably plant maize, intercropped with legumes and cassava and often some millet (Collinson, mimeo 1963).

As we mentioned when discussing the various soils of the *catena* (p. 13) the Sukuma peasant will, within the limits of the soil types available to him, plant only a limited range of crops on a specific soil. Therefore he will generally have several fields for his food crops, each field with a different mixture. The result of this "pseudo rotation" is that a true rotation system never developed. Opinions about the merits of intercrops vis-a-vis pure crops differ. There is general concensus that mixed cropping has been highly beneficial in the past, for its qualities in maintaining soil fertility. Rounce (1949) also emphasized that

"A much greater return of crops is obtained with the expenditure of a given amount of work than would be obtained by planting separate areas of each of the crops at their optimum spacing". Recent fieldwork by Collinson (mimeo 1964) seems to corroborate this contention. It follows that, at least at the present level of crop husbrandy practices, a smaller acreage is required to produce the amount of food needed by the family under a mixed cropping regime. Furthermore, if land is not the main restrictive factor, the food production requires less labour during the cultivation season, so that more time becomes available for cotton growing. The present extension policy, however, is strongly in favour of pure cropping. It is held that, given proper crop husbandry techniques, pure stands will greatly outyield equivalent acreages of intercrops. Yet, very little research has gone into mixed cropping at an improved level and nothing has been proved.

The introduction and expansion of cotton, being a monoculture, is bringing about a change in respect of the need to rotate crops. Without the use of a sufficient quantity of farmyard manure or artificial fertilizers, the cotton yields decrease rapidly and the peasant is well aware of this. Although grass fallow, or planting cassava in stead (especially on *luseni*) are the most common remedies in such cases, the scarcity of land had induced other peasants to rotate their cotton with their mixed or pure food crops (cf. p.118 and Rotenhan, 1966, p. 44-50).

It is of interest to compare the data collected by Rounce (MS 1945) regarding the acreages taken up by the different crops with those of Collinson (mimeo 1962) as they show a number of important changes that have taken place in the intermediate period:

Table II-2: Average acreages per household according to Rounce (1945, Bukumbi and Bunegezi chiefdom) and Collinson (1961, Bukumbi subdivision)

	Rounce 1945	Collinson 1961
Sorghum	.34	–
Bullrush millet	4.09	.22
Maize	.06	.65
Cassava	1.19	.70
Sweet potatoes	.40	.16
Rice	.10	.23
Cotton	1.01	2.73
Sundry	.09	.19
Intercrops ')	3.98	3.68
Total acreage cultivated ")	7.35	6.04

Source: Rounce (MS 1945) and Collinson (mimeo 1962).

') Most items in this category are not comparable. They include: Rounce: Maize: .29; groundnuts: .23; other legumes: 2.79; sweet potatoes: .29; sundry: .38. Collinson: Maize: 1.40; groundnuts: .51; mixed legumes: .42; millet: 1.17; cassava: .18.

") The total acreage cultivated does not include cassava planted in a previous year. Furthermore, although this is not explicitly stated, both Rounce and Collinsons have apparently entered each crop of the mixture separately. Thus one acre planted with a mixture of maize and mixed legumes would be entered as one acre of maize and one acre of mixed legumes.

Both surveys were rather small, covering successively 55 and 49 households. Moreover, strictly speaking they may not be comparable since the 1945 figures are not restricted to Bukumbi alone, but also include the neighbouring chiefdom Bunegezi. Some of the differences are nevertheless so marked that it seems safe to assume that they are significant. Some examples are the major drop in the sorghum and millet acreages and the increase in the acreage planted with maize, groundnuts or cotton. Equally important in this respect is the smaller acreage under cultivation. This is the more remarkable as the average size of the household was larger in Collinson's survey than in 1945, namely successively 8.02 and 7.04 persons. Probably the large household size of Collinson's survey is, however, due to a bias in his sampling method, so that his figures cannot be regarded as fully representative for the smaller households [9].

Several, partially related factors seem to have contributed towards the changes recorded in table II-2, such as:

– Increased pressure on the land. Apparently this factor has only a limited applicability for the larger households which formed a considerable part of Collinson's sample. Often no more than about half the total farm area was actually cultivated. Furthermore, between 1947 and 1957 the total population of Mwanza district did not increase, due to widespread migration, mainly directed towards the Geita district. Bukumbi subdivision being located closest to Geita, it seems unlikely that the trend has been different here, also in view of its extremely high population density (cf. p. 34). On the other hand, the breaking-up of the extended family, as has occurred in this period, must necessarily have had its consequences re the size of the households and the acreage the smaller family units could cope with. This development is not shown in Collinson's figures because of the bias in his sample in favour of the large households.
– Omission in Collinson's survey. The 1961 cassava acreage appears to be incredibly low. The most plausible explanation is that his survey did not cover the two and three year old cassava, as he explicitly stated in the case of his subsequent Usmao survey (mimeo 1963).
– There exists a possibility to buy cassava in the Geita district. The peasants can cheaply supplement their food by buying a field of cassava in the Geita district. He can harvest the crop himself and even sell part of it to recover his costs. However, this is only rarely done by the larger well-established households. It is therefore unlikely that this practice can have significantly influenced the 1961 figure.
– Substitution of maize for millet and sorghum. There can be little doubt that substitution of maize for sorghum and bullrush millet has occurred. Maize gives higher yields, is somewhat less vulnerable to *striga* attack and is less liable to damage by weaver birds. The age

group who used to take care of bird watching is in school now! The same development has been noted in other parts of Africa south of the Sahara.

– Change in beer drinking habits. Traditionally a considerable part of the millet was used for brewing beer at home. Now that more money has become available, the local beer is generally bought at one of the many pombe shops, where it is manufactured from maize. Furthermore, a license is now required for anyone who wishes to brew beer, which for an ordinary peasant is a costly affair.

– Limitations of family labour. There is a clear limit to the acreage which can be planted, harvested and weeded by means of family labour. The main restrictive factor in this hand cultivation area is the capacity of the family to plant the crops in time. The expansion of the groundnut and cotton acreages has therefore most likely diverted energies from other crops. Undoubtedly this is sound policy when viewed from the economic angle. At current prices the returns from both cotton and groundnuts are higher per acre than from other (food) crops, with the exception of rice. This is clearly an important consideration when a family does not have sufficient land. But also if enough land is available the argument holds true. The labour requirements of the various crops do not markedly differ during the cultivation season. Later in the season they do, but then there is no peak in the total labour requirements of the farm (cf. p. 26). Therefore, if family labour is used to its full capacity – at least to the extent the Sukuma are willing to use it – during the cultivation season and no more land can be planted for this reason, it is advantageous to plant groundnuts and cotton instead of other crops. This does not mean, that a Sukuma peasant would be inclined to buy most of his food, but he will probably be content with a smaller surplus as an insurance against adverse weather conditions.

– Leisure preference. Collinson (mimeo 1963) estimated that on an average even during the cultivation season no more than about two thirds of the theoretically available family labour was actually used. On the one hand, one must take the many social obligations into consideration (meetings, death in the village, participation in communal cultivation of *Kisumba* etc.). On the other hand, it is obvious that many peasants are at present unwilling to devote much more of their time to agricultural production. It has been said, that this leisure preference demonstrates an "uninterested attitude of the peasant towards economic effort and rewards . . . They like to have money and consumer goods, but shy away from the effort necessary to obtain them" (Ruthenberg, 1964, p. 49). This and other statements tend to hide more than they reveal, especially if – as is too often the case – neither the rewards nor the necessary efforts are further contemplated, and compared with the rewards in other sectors in the economy. At the present level of crop husbrandy techniques e.g. the reward of one man day's hard labour in cultivation can be calculated at shs 2/75 for cotton (p.127). Many unskilled labourers receive over shs 5/- per working day. In passing it is noted that this leisure preference is an important factor which hinders the rapid dissemination of modern growing practices, in particular because – due to lack of knowledge – the outcome is far from certain for most peasants. Almost invariably the propagated modern crop husbandry practices demand more work from the peasant.

– Increase in rice acreage. Although even the 1961 acreage is small, a change as recorded in table II-2 would have important consequences for the availability of family labour for other crops, as rice growing has a very high labour intensivity. It seems certain that the increase is not significant. The 1945 figure was "abnormally low owing to a succession of bad seasons" (Rounce, 1949, p.3). There may, however, be a connection between the low 1945 rice acreage and the higher figure for sweet potatoes in the same year. Grown on wet patches of *Mbuga* land, sweet potatoes may have temporarily replaced rice in the diet.

A source of income not mentioned thusfar is sisal, which is grown as hedges on the land. In certain years, depending on the price, this has been a rather important cash crop. During the last few years the production has greatly decreased, owing to the slump of the sisal prices. The leaves are decorticated by hand and the quality of the fibre produced in this way is rather poor. Many families derive additional income from the burning of charcoal, part of which may be sold.

9. *An approximative crop calendar for Bukumbi subdivision*. Weather conditions, soil types and fertility and, perhaps most important, the size of the household and its available labour, make for major variations between farms and even for work on the same farm in two consecutive years. Especially cultivation and weeding inputs may vary considerably, both in intensity and spread, over the year. When the early rains are good (as in the 1965 – '66 season) cultivations begins early and the first maize is planted in November. In case the early rains fail (as in 1964 – '65), much more work is needed to get the crops planted, as the soil is difficult to work. In such a case the planting of crops will be prolonged, especially of cassava. Even then the total acreage cultivated is likely to be smaller than in normal years. Cassava may be planted as late as April, although this results in a major loss of yield even when the cassava is left in the field for a third year. An experiment at Ukiriguru showed a decline in yield from eight to two tons of fresh roots per acre with successive plantings from December to March (Progress report no. 3 of Ukiriguru, 1966). The cultivation of sweet potatoes may continue throughout the dry season on wet patches of land, even under more favourable conditions. Also the cotton acreage is likely to be much smaller in a dry year. The women and children who have been given a plot to cultivate for themselves (a *kilaba*) may not manage to cultivate in time.

Nevertheless, the drawing-up of a crop calendar for an "average" farm has the advantage that it shows, admittedly in a rather unprecise way, the labour requirements throughout the year and the main constraints of the capacity of family labour to deal with the various operations at different times of the year. The following crop calendar is mainly based on the work of Collinson in Mwanza district, on which basis he drew up his "Rough crop calendar" (MS 1965). Some changes have been made, to allow for some increase in the cotton acreage and for a smaller size of the household.

Table II-3: An approximative crop calendar for Bukumbi subdivision derived from Collinson (MS 1965), with some minor changes; (figures represent man days)

Crop and acreage:	N	D	J	F	M	A	M	J	J	A	S	O	Total
Cotton		Cult / Plant / Weed / Thin / Weed / Pick /Grade / Clear											
3.00	–	30	30	20	10	5	10	25	25	20	12	10	197
Mixed foods	Cult/Plant/Weed/ Cult / Plant / Weed / Pick												
2.00	6	10	17	18	15	16	9	3	–	–	–	–	94
Pure foods		Cult/Plant/Weed/					Pick						
1.00	–	5	7	10	8	–	5	–	–	–	–	–	35
Sweet pot.	Cult/Plant/Weed/Cult/Plant/Weed												
.20	2	1	–	2	1	–	–	–	–	–	–	–	6
Rice	Seedb/Cult/Plant/Weed/							Harvest					
.25	2	–	3	8	3	5	–	5	5	–	–	–	31
Total 6.45	10	46	57	58	37	26	24	33	30	20	12	10	363

These figures are based on the following assumptions:

Acreages: With some adjustments as obtained by Collinson in Bukumbi (mimeo 1962) and in Usmao (mimeo 1963).

Planting time: Cotton: mid-December to mid-January; rice: mid-February; sweet potatoes: half in November, half in March; all other food crops: early December to mid-March.

Labour inputs: a. *Sesa*/ridge/plant: cotton: 20 man days per acre; pure foods: 23 man days; mixed foods: 28 man days; rice: 55 man days; b. Weeding: cotton: 10 and 5 man days (two weedings); pure foods: 7 man days; mixed foods: 9 man days; rice: 20 man days; c. Pick/harvest: cotton: 16 man days; pure foods: 5 man days; mixed foods: 10 man days; rice: 40 man days; d. Grade: cotton: 11 man days; e. Clear: cotton: 3½ man days.

Man equivalent values:

Age group:	Over 50	19-50	15-18	10-14
Males	.67	1.00	.67	.25
Females	.50	.67	.50	.25

The crop calendar shows several interesting and for this study highly relevant points.

Firstly the large share of cotton in the total labour requirements deserves some comment: 197 out of 363 man days. It is worth noting that since 1945 on an average more than 120 man days per year have gone into the expansion of the cotton acreage on each farm. Partly this may have been done at the expense of other crops, but more than half of it has been additional work (weeding, picking and grading and the burning of the stalks). Secondly, it is clear that the labour inputs are very unevenly distributed over the year. A peak is reached in January and February, when all crops demand the farmer's attention. In years of good early rains, or in case modern crop husbandry practices were adopted in cotton growing, the emphasis would be advanced to December, as a result of earlier planting. At the same time, the crop calendar shows that the possibilities in this respect are fairly limited, because of the labour requirements of the other crops at that time. The improved husbandry techniques would include fertilizing, spraying, more intensive and timely weeding. Moreover, the subsequent larger crop would demand much more labour for picking and grading, although the labour productivity can still be considerably raised for these operations. As table II-3 shows, the greater labour requirements do not constitute a problem, as far as the availability of sufficient family labour is concerned, after the cotton has been planted. The main constraint is at present, and will be in the near future, the capacity of the family to deal with cultivation at the appropriate time: the crop calendar is based on an average of three adults per homestead.

Of great importance, and also brought forward in the crop calendar, is the fact that the food crops remain the peasant's first priority. The cultivation of cotton fields will begin only after at least part of the early food crops have been planted. By this time of the year most people have to rely on cassava as their main food and the possibility to change this is welcomed by all. The conclusion for agricultural extension is, that the various operations in cotton growing, can only be seen in its true perspective if the requirements of the subsistence crops are also taken into consideration. A reform of the food production would greatly facilitate the required modernization of cotton growing. Thus the introduction of more productive varieties and better husbandry techniques in the subsistence sector could free family labour – as a smaller food acreage would be required to meet the needs of the household – which could be used to plant the cotton earlier.

10. *Animal husbandry*. Although the Sukuma are primarily cultivators, livestock plays an important role in their society, both economically and socially. The total animal population of Sukumaland has been estimated at between 3.0 and 3.5 million heads of cattle and 3.0 million sheep and goats, about 40 per cent of Tanzania's total herds (E.A. Livestock survey, II, 1967, p.62).

In Bukumbi subdivision, as elsewhere in Sukumaland, only a portion of the peasants own cattle. Reliable figures are difficult to obtain: possession of cattle is subject to taxation and the people are extremely suspicious of anything that could possibly be connected with new tax measures. Moreover, they still vividly remember the destocking programme of the Sukumaland development scheme. For survey purposes there is only a partial check on the possession of cattle. In the case of a stockyard being attached to the homestead, it is certain that the owner possesses cattle. The fact that no such stockyard is found, however, is no proof to the contrary. The custom of cattle lending is very widespread (cf. Malcolm, 1953, p.72-3). Consequently all figures obtained in cattle censuses and other surveys, including our own Bukumbi survey, are open to considerable doubt. In our Bukumbi survey 187 out of 549 males classed as (at least part time) farmers stated that they possessed livestock, i.e. 34.1 per cent [10)].

Until now "the survival type of animal husbandry is practiced throughout Sukumaland and in all parts non-productive animals are retained in the herds" (McCulloch, 1965). Insurance against famine is one important consideration in the drier parts of Sukumaland, where the greater part of the herds are concentrated. In case of food shortage cattle can be consumed, or bartered for surplus food from other areas. Cattle diseases like epizootic East coast fever – of which a serious outburst occurred in 1953 – and in the past the hazards of cattle raids and rinderpest provide further stimuli to maintain large herds in these areas. Unquestionably the result is that in much of Shinyanga region there exists a serious problem of overgrazing and degradation of the available pasture land.

In Bukumbi subdivision and adjacent areas these points carry less weight. East coast fever is enzootic and does not therefore constitute a serious threat to cattle. Famine conditions do not occur owing to the favourable rainfall pattern and its greater reliability. But here the social function of cattle applies with full force. The two most common ways of obtaining cattle were – and still are – through inheritance and from a bride price. Both ways imply a profusion of kinship obligations which hinder the disposal of stock. When e.g. the eldest son inherits most of his father's cattle, he will be held to provide for the bride price of his younger brothers (cf. Malcolm, 1953, p.64-7). Moreover, there is little incentive to sell unproductive stock, except for some specific purpose like building a modern house or paying the expenses of a wedding party. The investments in agriculture are extremely low, the pastures are communally owned and cattle has never been regarded as contributing towards the regular money income of the household, except perhaps from the sale of some milk. If an old beast dies of a disease, the meat is eaten and sold to other villagers. Soil erosion from overgrazing is not a problem in Bukumbi and the nearby grazings are usually adequate throughout the dry season.

Even under the traditional regime, the returns from livestock are rather high. Collinson (mimeo 1964) calculated a return of 18 per cent on capital invested in cattle for Maswa, and of 14 per cent for Usmao, excluding the milk produced. As the Sukuma puts it: "Shillings do not breed". Not knowing that they do in a savings account it is small wonder that often a considerable part of the cash earned by people belonging to the higher income groups (who are also the cattle owners), is invested in cattle. There can be little doubt that the herds have considerably increased in size since cotton gained ground as the major cash crop.

It is of importance to note here that, at least in this part of Mwanza district, animal husbandry does not directly compete with crop husbandry as regards land use. The lighter hill sands are preferred for cultivation, leaving the lowerlying soils available for grazing. If a peasant wishes to cultivate a field on these soils, he can do so. Cattle holding, as long as it does not cause a lasting degeneration of the soils, therefore means a definite enrichment of the economy at the present level of crop husbandry techniques. Moreover, it demands relatively little extra labour that could profitably be used in cultivation and this labour is employed the whole year round.

Personal grazing reserves, as occur in some other parts of Sukumaland (cf. Malcolm, 1953, p.73-8) never developed in Bukumbi, since there was no need for them. The same is true of village grazing reserves, as found in parts of Maswa district (cf. Smith, 1938). In addition to the use of the communal pastures of the lower lying soils, cattle owners have the right to graze their cattle over the crop residues and grass fallows of the other villagers. No form of payment is required, but those who do not own cattle are entitled to ask for farmyard manure from their wealthier neighbours.

It has been suggested, that the development of a cattle industry has now become possible in Mwanza district, because of the absence of threatening epizootic diseases and the favourable climatic conditions (McCulloch, 1965). The returns could indeed be raised considerably. The East African Livestock survey (II, 1967, p.63) stated that with the adoption of good methods of animal husbandry, the Zebu cattle of the Sukuma could provide meat products of marketable quality. In respect of the cash returns the survey (op.cit.) noted: "At present the offtake of cattle for slaughter is about 50,000 per annum, giving the producers (at an average of £ 8 per head) a total cash return of some £ 400,000. The offtake should be at least ten per cent of the cattle population and (with organized marketing, improved husbandry and control over losses from diseases and drought) the stockowner should be able to obtain an average of £ 13 per head and a total cash return of £ 4 million".

The introduction of grade cattle could, if combined with the required better pasture management, raise the returns to a still much higher level in Mwanza district, also because the milk production would increase considerably. In the long run, animal husbandry might even offer an advantageous alternative to cotton growing as a source of cash income. For the time being, however, there are several formidable obstacles which prevent this development namely the high population density, the poor standard of management, the social role of cattle and, perhaps most important of all in the initial phase, the complex land tenure system. The fencing of pasture land, now communally owned, would be a prerequisite for a significant improvement of the quality of animal husbandry in Sukumaland. As yet nobody in Mwanza district has been able to meet this requirement, as the village community would not tolerate such action. In practice the rather vague government policy in respect of the land tenure question retards development. It is apparently, and not without reason, feared that individual leasehold titles on communal pasture land would result in the creation of increased differences between rich and poor peasants. Neither, however, have plans been advanced for a communal approach, e.g. on the basis of co-operative undertakings at the *nzengo* level. The result is that in respect of animal husbandry "Sukumaland . . . is a glaring example of retarded development through failure to solve the problems of land tenure reform" (E.A. Livestock survey, I, 1967, p.48).

Notes and references

1) The 1957 census figure was 1,093,767. The 1957 sex ratio of 93.0, moreover, suggests some undercovering. The preliminary results of the 1967 census (C.S.B., 1967) indicated a 35.1 per cent growth of the total population of Tanzania's mainland.

2) For further comment on this issue may I refer to Ruthenberg, 1964, p. 183-6.

3) Harris (mimeo 1966) equally preferred *Itongo* to *Kikungu II*. There may be some misunderstanding here, as *Itongo* is used for the site of an abandoned homestead in Bukumbi. Rotenhan (1966, p.13) even used *Isanga* in stead of *Kikungu II*.

4) Rounce (MS 1945) gave the following acreages under cultivation on the various soil types in Bukumbi and Bunegezi (situated to the north of Bukumbi): *Kikungu*, 84.81 (21.0%); *Luseni*, 279.12 (69.0%); *Isanga*, 7.38 (1.8%); *Itogoro*, 28.83 (7.1%); *Ibambasi*, 0.01 (0.0%); *Mbuga*, 1.81 (0.5%); *Ibushi*, 2.58 (0.6%).

5) Milne made his reconnaissance journey in 1935 - '36. It is of interest to note that a remarkable characteristic of the postwar period in East Africa was the high priority given everywhere to erosion control, especially in Tanganyika. Similar projects, although smaller in size were set up in Kondoa Irangi, Ugogo, the Usambara- and Uluguru mountains (Ruthenberg, 1964, p. 52-4).

6) This amount includes the contributions of the Native Authorities for this purpose.

7) Cf. especially Dobson (1955), Hartley (1938), Malcolm (1953, p. 20-61), Tanner (1955), Cory (MS 1957) and Wright (mimeo 1952).

8) T.A.N.U. (Tanganyika African National Union) is the only political party on Tanzania's mainland.

9) Collinson made use of the list of cotton growers kept at the local co-operative societies. Since several members of the same household may grow and sell their cotton independently, the large households will be over-represented if a sample is taken at random.

10) Collinson's figure for Bukumbi (mimeo 1962) is higher as may be inferred from his mode of five livestock units per household. But also in this case, the over-representation of large households may have biased his results.

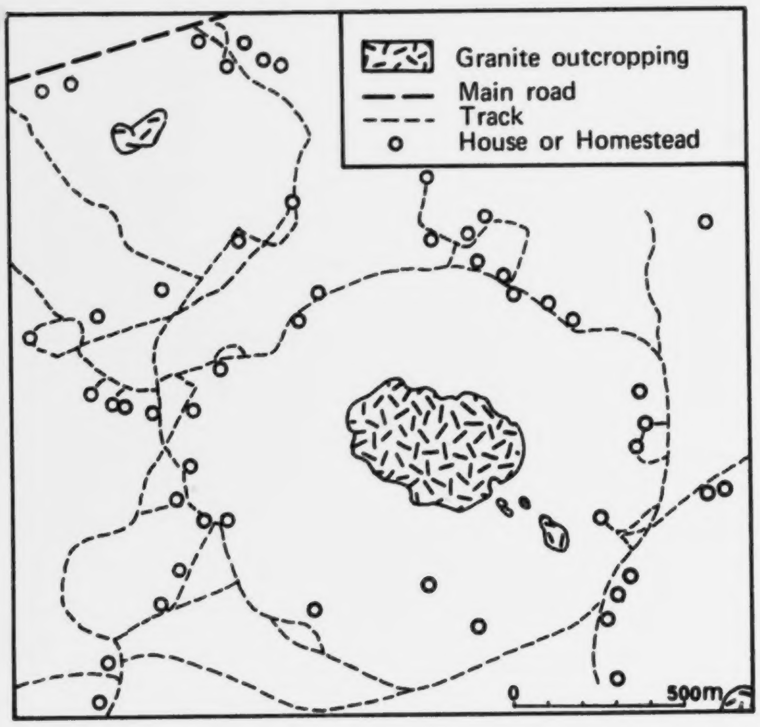
CHAPTER III

THE SETTING, BUKUMBI SUBDIVISION: THE PEOPLE

1. *Pattern of habitation.* Administratively the subdivision is divided into seven *gunguli* (which word in the existing literature is usually translated as village), each with a headman in charge (cf. map 4). The translation village for *gunguli* is, however, misleading. There is little or no cohesion between the various parts of a *gunguli*. Their present boundaries were fixed rather arbitrarily on the basis of the number of taxpayers, which in the case of Idetemya and Nyang'homango resulted in rather odd-shaped and from the point of view of communications necessarily inefficient units.

Each *gunguli* is made up by a number of *nzengo*. The *nzengo* can be defined as the smallest residential unit larger than the homestead and is, in the sociological sense, the equivalent for village. Normally a *nzengo* consists of from fifteen to twentyfive homesteads. Its inhabitants belong to one of the several existing village organizations, based on seniority and sex, which are such important features of the Sukuma social organization [1]. For administrative purposes often a number of the smaller *nzengo* have been combined to form one *kibanda*, with a subheadman in charge. But these combinations have merely administrative significance, in other parts of Sukumaland this construction is unknown. In Bukumbi the village organizations continue to function according to the old pattern of *nzengo*. Sometimes the *basumba* (members of the *kisumba* society of young men and girls) of two *nzengo* in the same *kibanda* may have decided to work together, but as a rule each of them will even then have its own leader, the *nsumba ntale*. When the conversation takes place in Kiswahili, however, the word *kibanda* – which is apparently of Kiswahili origin – may also be used as synonymous with *nzengo*!

As map 5 shows for Kigoma *nzengo*, the homesteads usually lie scattered throughout the *nzengo* territory. Where possible the houses have been built on *Itogoro* or on the lower



Map 5: Kigoma kibanda, pattern of habitation

part of the *Luseni/Isanga* zone, i.e. close to the water. Concentrations of more than ten houses are few (cf. map 4):

- *Usagara, the main trading centre in the subdivision;*
- Kakora, located near the R.C.Mission, schools and hospital, on the road from Usagara to the ferry across Mwanza gulf;
- Nyamanoro, where a few shops are found to cater (mainly) for the workers of the labour camp of Ng'walugwabagole ginnery;
- Fela, a small market place and railway station in the eastern part of the subdivision;
- Nyang'holongo, situated opposite the agricultural training centre and research institute Ukiriguru, also with a few shops and bars.

2. *Population density*. The area covers approximately 58 square miles. Unfortunately recent population figures are not available. The only basis for a reasonably reliable estimate is provided by the taxpayers lists, which for January 1965 showed a total of 3,441 male taxpayers:

Table III-1: Population estimation based on taxpayers lists, as per January 1965

	Number of male taxpayers	Estimated total population *)
Buhongwa	567	2,550
Ng'wakatega	353	1,600
Nyang'homango	521	2,350
Idetemya	589	2,650
Kashishi	360	1,600
Nyigumba	445	2,000
Bulemeji	606	2,750
Total subdivision	3,441	15,500

*) Rounded off to nearest 50. The estimated total population is obtained by multiplying the number of male taxpayers by 4.5, in accordance with local usage. If allowance is made for non-response, the same figure is arrived at on the basis of the age structure in our Bukumbi survey (cf. table III-3).

The total population figure of 15,500 corresponds with a density of 267 persons per square mile.

In August 1967 the corresponding figures for Mwanza district (including the less densily populated eastern part) and the rest of Sukumaland were as follows: Mwanza: 181.0; Kwimba: 130.1; Shinyanga: 88.0 and Geita district: 106.1. Maswa district had only 52.2 persons per square mile (C.S.B.: Preliminary results, 1967, p. 16 and 19). It follows that Bukumbi subdivision is very densily populated even in comparison with the whole of Mwanza district. Measured by the standard set by the "Sukumaland equation" of 112 persons per square mile (Rounce, 1949) the area is clearly heavily overpopulated. Small wonder therefore, that except near the granite hilltops the soil fertility is generally low, as a result of intensive use. Suitable farmland is scarce, which problem was further aggravated by the expansion of cotton as a cash crop. Most land being held by the older members of the community, many young peasants have to find (i.e. generally to rent) additional land in other villages or even in the Geita district, across Mwanza gulf. It should perhaps be stressed here, that upon the death of a peasant his holding is not divided between his heirs. One son will take over the homestead and the land going with it [2]. Consequently, sooner or later the other male children will have to find their own land, which in practice means moving to another area. Because of this, but also for various other reasons (p.19) a regular flow of migrants leaves the subdivision, mainly to the Geita district and further westward to Uzinza, where land is still relatively abundant. If, as the census figures of 1947 and 1957 indicate, the total population of Mwanza district has decreased in that period due to migration, at least a quarter of the population must have left the district. There is no reason to believe that this tendency in Bukumbi has been different, especially in view of its favourable location vis-a-vis the Geita district and the high population density. These were, however, the years of the Sukumaland development scheme when migration was promoted by the government. After 1957 the migration rate has apparently somewhat decreased as is suggested by the fact that between 1957 and 1967 the average population density in Mwanza district rose from 153.3 to 181.0[3)].

3. *Tribal composition.* The following pages mainly contain the chief results of our Bukumbi survey, conducted from May to July 1965 (cf. p. 5).

Naturally the great majority of the population in Bukumbi subdivision is Sukuma. This is especially true of the purely agricultural *shibanda*, although it is worth noting that in almost every *kibanda* one or more non-Sukuma have been allowed to settle. In some places, however, there is a marked concentration of non-Sukuma, who mainly work in the non-agricultural occupations:

Table III-2: Bukumbi survey, tribal composition and residence in *shibanda* [*)]

	No data	Sukuma	Nyamwezi	Kerewe & Kara	Tribes Mara region	Haya	Zinza	Other tribes Tanzania	Luo	Other tribes Kenya	Tribes Uganda	Tribes other countries
Usagara	3	136	40	2	12	14	1	38	2	–	1	16
Kakora	–	53	8	4	–	4	–	1	10	–	–	6
Nyamanoro	2	140	7	3	7	1	2	3	–	–	3	3
Labour camp ginnery	–	49	3	1	49	13	4	57	24	8	7	20
Kagera	–	56	1	–	–	–	–	2	–	–	–	–
Shibai	–	136	–	1	–	–	2	2	–	–	–	–
Ng'wakatega	2	181	–	–	–	–	1	–	–	–	–	2
Ng'wabebeya	1	71	–	–	–	–	–	–	–	–	–	–
Nyang'wana	–	50	1	–	–	–	–	–	–	–	–	1
Ng'wasonge	1	164	1	2	–	–	1	–	–	1	–	1
Nyamasekela	2	153	6	–	–	–	–	–	–	–	–	–
Kigoma	–	194	–	–	–	–	1	1	–	–	–	–
Nyamagembe	1	108	7	4	1	–	7	6	–	–	–	1
Ijijawende	–	156	–	–	–	–	1	–	–	–	–	–
Total	12	1,647	74	17	69	32	20	110	36	9	11	50

[*)] For location of shibanda cf. map 4.

Thus 79 per cent of the workers in the labour camp of the Ng'walugwabagole ginnery were non-Sukuma[4)]. Similarly the percentage of Sukuma was only 51 in Usagara, 75 in Kakora and Nyamanoro, against 95 in the other (truly agricultural) *shibanda*. On the coast of Mwanza gulf (e.g. at Nyamagembe) several fishermen of other tribes have settled. The main tribes participating in this trade are the Kerewe, Jita, Haya and Luo. The Sukuma themselves, although living on the shores of Lake Victoria, are much less interested is fishing.

4. *Age structure.* Table III-3 summarizes the ages of all respondents in our Bukumbi survey. Since questionnaires were only completed for respondents aged ten and over, the data for the children under ten years of age have been taken from the progenies and from answers to a question which asked for particulars about other persons staying at the homestead.

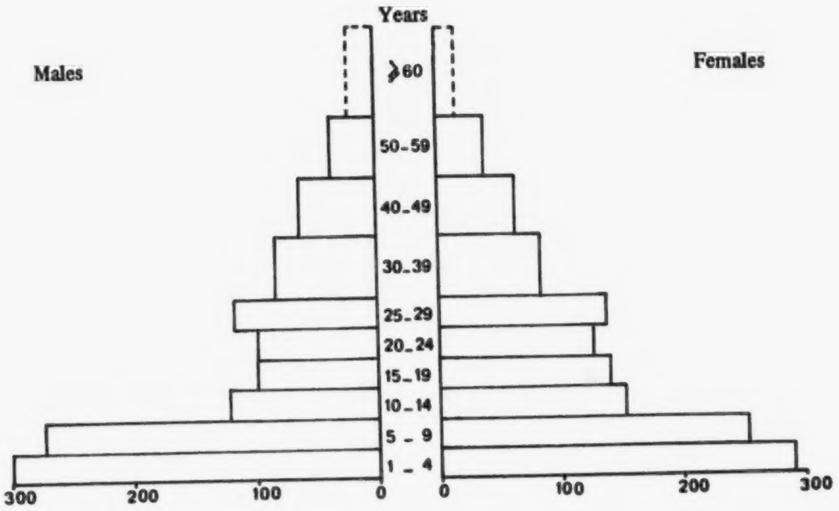
Table III-3: Bukumbi survey, age structure of respondents and of children under ten years of age living with them *)

	Males	Females	Total
0 – 4 years	300	290	590
5 – 9 "	272	254	526
10 – 14 "	122	151	273
15 – 19 "	99	140	239
20 – 24 "	98	126	224
25 – 29 "	117	136	253
30 – 39 "	165	169	334
40 – 49 "	126	126	252
50 – 59 "	73	73	146
60 years and over	72	53	125
No data	1	5	6

*) Excluding the workers in the labour camp of Ng'walugwabagole ginnery. Cf. figure 3.

Obviously these figures need some comment. Firstly, for lack of time the determination of the age of respondents could not be based on extensive correlations with for instance historical data and other demographic facts such as the progenies of women, that are necessary to establish the ages with sufficient accuracy. As most people had no idea of their real age, we had to rely on estimation by the interviewer and the respondent. Few corrections were made afterwards, e.g. in case the ages of the mother and her first child differed less than 15 years. This may have influenced the results to some extent, notably in the oldest age groups. More important, and largely responsible for the strange sex ratio in the age groups from 10 to 29 years, is the fact that non-response was rather age- and sex specific. Two causes deserve mentioning here. In the first place education. Boys at school in Bukumbi upper primary school and other children in boarding schools outside the subdivision (both in primary- and in secondary schools) could only rarely be interviewed and do not therefore show in table III-3. Among them there were naturally many more boys than girls. Thus from the women's progenies it was found that in the age group 10 - 14 years twenty boys were at school outside Bukumbi against only eleven girls. A second factor is the circumstance that the unmarried youth, and especially the young men, enjoy considerable freedom in Sukuma society. "They are not expected to take life too seriously" (Cory, MS 1957). Consequently relatively many young men were not at home, each time the interviewers tried to contact them. In the age group 20 - 24 years e.g. at least ten males could not be interviewed for this reason, against only one female.

Figure 3: Bukumbi survey, age structure of respondents and of the children under ten years of age living with them (excl. labourers Ng'walugwabagole ginnery)



Furthermore, it is clear that also the fairly high emigration rate is rather age- and sex specific, at least in the first phase of migration. The number of migrants to town should not be overestimated. On a total of nearly 1,500,000 Sukuma there are less than 7,000 Sukuma in Mwanza town, and considerably less in the other urban areas of Tanzania. A much greater number goes to the Geita district and Uzinza, as the data collected about the st.VIII leavers in this respect prove (cf. forthcoming study by Kaayk). Many of these migrants, especially the unmarried young men, first begin by cultivating a cotton field in Geita and return from time to time to Bukumbi. Only later, after marriage will they settle definitely. Yet, as many of them were away at the time of the interview, only few could be canvassed in the survey.

The female side of the pyramid is therefore much more reliable. Girls below the age of 15 form over 45 per cent of the total number of females canvassed. It follows, that the population of Bukumbi grows at a very rapid rate.

5. *Religion*. About half the population still adheres to their traditional religion. The Roman Catholic mission began its work already in the nineteenth century, but met with comparatively little success; only about a third of the population has been converted to the Catholic faith. In part religion in Bukumbi is correlated with location. Not surprisingly, the greatest number of Catholics live in the vicinity of the mission. Yet, some *shibanda* or even *nzengo* (like

Nyamikoma, a *nzengo* of Kigoma *kibanda*) are practically exclusively Catholic, whereas in some other nearby places (like Suke, also a *nzengo* of Kigoma *kibanda*) the great majority has remained "pagan". The Moslems in Bukumbi are concentrated in the small trading centres like Usagara and Fela; very few Moslems live in the agricultural *shibanda*. Protestants are only few in number. Most of them belong to the African Inland Church and have come from elsewhere. The following table shows the data obtained in our Bukumbi survey:

Table III-4: Bukumbi survey, religious affiliation of respondents

	Males	Females	Total	
	Abs.	Abs.	Abs.	%
No data	4	12	16	0.8
Traditional religion	476	515	991	47.5
Protestant	69	45	114	5.5
Roman Catholic	394	338	732	35.1
Moslem	103	131	234	11.2

Some interesting differences can be observed between males and females. The educational factor provides one explanation. The R.C. missionaries at present concentrate their efforts in the schools and most converts are made among the school going children. In the ideas of many Sukuma, education and christian religion go together; "pagan" then becomes almost synonymous with uneducated and stupid. Since, at least until very recently, many more boys were sent to school than girls, the number of Catholic males is larger. Conversely the same is true for the number of females in the traditional category. The higher number of Protestant males is the result of the temporary immigration of unskilled labourers at the Ng'walugwabagole ginnery. Although a number of Moslem males worked there, a second reason for the greater number of Moslem females is caused by the remarkable sex ratio of the Moslems at Usagara. Many widowed or divorced women have settled here, often belonging to the Sudanese or Manyema groups 5).

The educational factor and the other influences mentioned can be seen, when age and religion of the respondents are correlated (cf. also figure 4 and 5):

Table III-5: Bukumbi survey, age and religion of respondents (percentages taken of total age groups)

	No data		Traditional		Protestant		Catholic		Moslem	
	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
10 - 14 years	2	0.7	96	35.0	11	4.0	140	51.1	25	9.1
15 - 19 "	1	0.4	110	42.1	13	5.0	125	47.9	12	4.6
20 - 24 "	3	1.1	112	40.1	25	9.0	112	40.1	27	9.7
25 - 29 "	2	0.6	122	39.6	28	9.1	109	35.4	47	15.3
30 - 39 "	3	0.8	221	56.5	20	5.1	108	27.6	39	10.0
40 - 49 "	1	0.4	164	58.4	11	3.9	72	25.6	33	11.7
50 - 59 "	3	1.9	76	48.5	5	3.2	42	26.7	31	19.7
60 and over	1	0.8	85	65.4	1	0.8	24	18.5	19	14.6

If the children in boarding schools could have been included, the percentage of Catholics in the two youngest age groups would have been even greater.

6. *Employment.* Paid employment plays a relatively unimportant role in Bukumbi. The chief demand for unskilled labour comes from the Ng'walugwabagole ginnery, where work is, however, mostly of a seasonal nature. As the beginning of the ginning season coincides with the slack period in agriculture, one might expect that many young men in Bukumbi would seize this opportunity to augment their income. In fact the reverse is true. Only very few people living near the ginnery go to work there. The existence of a labour camp with 79 per cent non-Sukuma sufficiently illustrates this. The local population apparently highly values its leisure in the dry season, even to such an extent that they themselves occasionally hire others (especially Nyamwezi and Rundi) to build or repair their houses6). The wages paid by the ginnery (the legal minimum) are clearly insufficient to make good the hard work in the view of most local people. Permanent employment would be quite a different matter, but suitable job opportunities are few. Only rarely do the few Asian owned shops at Usagara, the R.C. mission and hospital, the co-operative societies or local government require permanent labourers or junior clerks.

7. *Education.* Bukumbi is well served with schools. After a rather long and difficult initial period, education is now in such demand, that each year many children have to be excluded from admission after a selection by the teachers7). In our survey, half the number of the males and three quarters of the females never attended school:

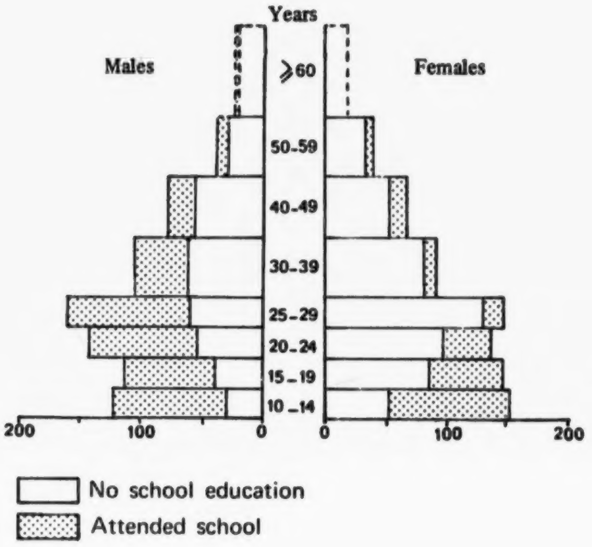
Table III-6: Bukumbi survey, educational status of respondents

	Left school (or never attended school)				Still at school		Total			
	Males		Females		M	F	Males		Females	
	Abs.	%	Abs.	%	Abs.	Abs.	Abs.	%	Abs.	%
No school education	528	56.2	785	82.3	-	-	528	50.5	785	74.4
Less than st.IV	140	14.9	69	7.2	38	30	178	17.0	99	9.5
St.IV	143	15.2	72	7.5	27	35	170	16.3	107	10.3
St.V – VII *)	75	8.0	20	2.1	33	19	108	10.3	39	3.7
St.VIII	33	3.5	5	0.5	7	3	40	3.8	8	0.8
Secondary I–IV	8	0.9	–	–	1	–	9	0.9	–	–
Teacher training	9	1.0	3	0.3	–	–	9	0.9	3	0.3
Other	3	0.3	–	–	1	–	4	0.4	–	–

*) The survey was conducted before the eight years primary course had been converted to a seven years course in this area.

The large number of children still at school relative to the number of respondents who had left school, already demonstrates the growing interest in education. How impressive this growth of primary education has been, especially after Independence, is also shown in figure 4:

Figure 4: Bukumbi survey, educational status and age of respondents

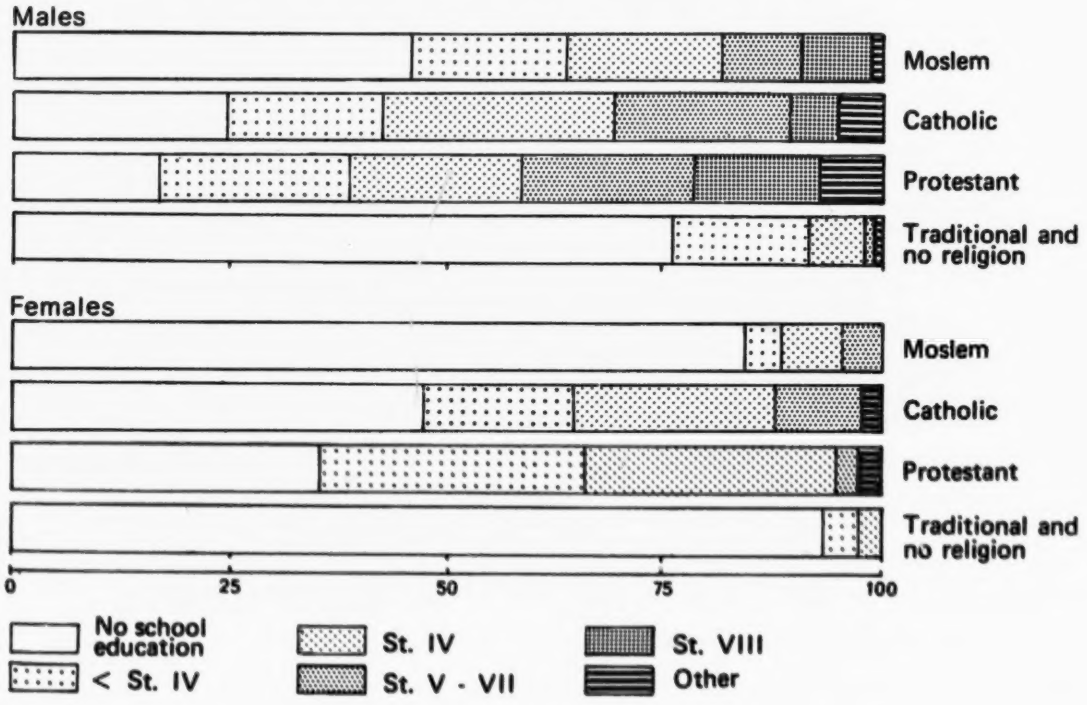


Again, it should be remembered that for the youngest two age groups the situation is in fact more favourable than indicated here, especially for boys, because the children in boarding schools were not canvassed in the survey. Even so, figure 4 shows that in five years time the percentage of girls who never attended school has been halved. Nearly eighty per cent of the boys and two thirds of the girls now receive at least a few years of school education. In comparison with the country as a whole, and most likely also with the more remote parts of Sukumaland, the figures are rather high. Hunter (1967, p.98) gave the following figures for Tanzania as a whole (as at 1966): Age group 12 - 15: Never in school: 350,000; 4 years'education 240,000; 7/8 years' education (of whom 20,000 will enter secondary): 160,000; total 750,000.

As table III-6 shows, only very few people with secondary education were found in our sample. The reason is not only that so few primary school leavers from Bukumbi have as yet completed their secondary education, but also that until now the most remunerative job opportunities for secondary school leavers have been in the urban areas. Africanization of the civil service and – to a lesser degree – of the private sector could, at least until 1966, easily absorb the total output of the secondary school. Hence only a few drop-outs returned to Bukumbi (not one of the eight males classed under the heading secondary I - IV had completed form IV). The situation, however, is quickly changing. As the number of secondary school leavers grows, following the rapid expansion of the secondary school system in Tanzania, an increasing number of secondary school leavers will no longer easily find employment in the towns or further vocational training. Already most teacher training centres only take students with at least form IV education, the ministry of agriculture has started short courses to train secondary school leavers for extension work etc. It may well be that in the near future jobs in the rural area, like secretary of a co-operative society – now held by people with st.VIII education or less – will become attractive for secondary school leavers.

The existing correlation between educational attainment and religious affiliation has already been mentioned. Figure 5 demonstrates the differences between the various religious denominations in this respect:

Figure 5: Bukumbi survey, religious affiliation and educational attainment of respondents



Not only the missionary activities in the schools, but also the religion of the parents (and of course their educational background) turns out to be significant when it comes to sending children to school:

Table III-7: Bukumbi survey, educational status of children, correlated with religion and educational status of their parents *)

	Children aged 10 - 14 years		Children aged 15 - 19 years	
	Never attended school	Attended school	Never attended school	Attended school
I. *Parents both traditional religion:*				
a. Neither parent ever attended school	43	36	40	20
b. Father only attended school	4	10	6	8
II. *Parents both Roman Catholic:*				
a. Neither parent ever attended school	2	8	4	7
b. Father only attended school	–	21	1	14
c. Mother only attended school	1	4	–	3
d. Both parents attended school	–	19	–	12
III. *Parents both Moslem:*				
a. Neither parent ever attended school	3	6	1	3
b. Father only attended school	–	4	2	2

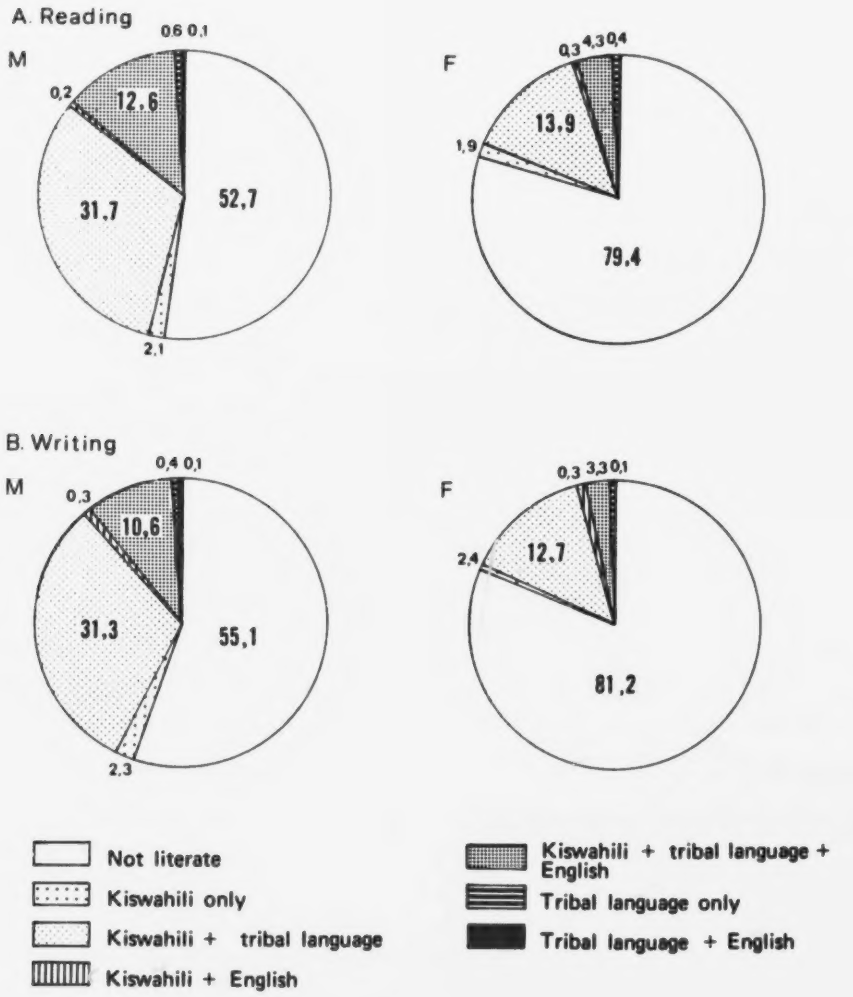
*) Only children whose parents were both still alive and living together, of the same religious denomination, have been included here. Because of their small number, Protestants had to be left out.

Clearly the Catholics, even if the parents themselves never attended school, have been more interested in school education for their children than the Moslem- and the traditional category.

8. *Literacy.* There exists a widespread although rather vague notion that literacy, somehow, plays an important role in social and economic development. There is, however, very little proof to support this theory and it must also be admitted that "there is a dearth of reported research on how to measure literacy, its consequences and its antecedents" (Rogers & Herzog, 1966). The greatest problem in measurement is to develop an objective test with clear criteria for the classifications "illiterate", "fractionally literate" and "functionally literate". In practice, moreover, the concept of "functional literacy" greatly complicates the problem of measurement, as it lays so much stress on the requirements of the individual's role in society. Thus a peasant in Bukumbi may need less ability before he can be considered "functionally literate" than his relative who migrated to Mwanza town.

It will be clear, that in the circumstances any assessment of a respondent's ability to read and write is bound to be subjective, especially when it comes to classifying the "fractionally literates" and the "functionally literates". In our surveys, both in Bukumbi subdivision and in Mwanza town, the respondents were first asked to make a statement regarding their ability to read a newspaper and to write a letter in a. their tribal language, b. Kiswahili and c. English:

Figure 6: Bukumbi survey, statement of respondents on literacy



To those, not at school, who considered themselves literate, a simple test was given, consisting of three questions in Kiswahili and in English that were taken from a st.III school book (cf. appendix I). Space was provided for the answers, so that the respondent's writing ability could be checked upon. In accordance with the internationally accepted definition of literacy (cf. Yang, Hsin-Pao, 1955, p.93) the lower age limit was defined at ten years. Table III-8 summarizes the results of both tests.

Undoubtedly the figures for the Kiswahili test compare favourably with the literacy rate in many other parts of the country. Current official estimates for Tanzania as a whole indicate an illiteracy rate of 80 per cent among adult males and of 89 per cent among females (Rutashobya, mimeo 1965). With more than a quarter of the literates still at school, it is clear that the literacy rate is improving rapidly.

Table III-8: Bukumbi survey, literacy test results

A. *Kiswahili:*

	Reading				Writing			
	Males		Females		Males		Females	
	Abs.	%	Abs.	%	Abs.	%	Abs.	%
No data	8	0.8	1	0.1	8	0.8	1	0.1
Refused test	–	–	–	–	–	–	1	0.1
Still at school	101	9.7	79	7.6	96	9.2	77	7.4
Literacy not claimed	558	53.4	831	79.8	582	55.6	847	81.2
Tested:								
Unable to read/write	2	0.2	5	0.5	8	0.8	11	1.1
Had major difficulties	133	12.7	36	3.5	148	14.3	40	3.8
No major difficulties	244	23.3	89	8.5	204	19.5	64	6.1
B. *English:*								
Still at school	34	3.2	25	2.4	29	2.8	22	2.1
Literacy not claimed	911	87.1	995	95.5	931	89.0	1003	96.2
Tested:								
Unable to read/write	5	0.5	1	0.1	11	1.1	1	0.1
Had major difficulties	27	2.6	9	0.9	15	1.4	6	0.6
No major difficulties	69	6.6	11	1.1	60	5.7	9	0.9

More than thirty per cent of the adults who were given the test could only read the questions or write the answers with "major difficulties". At best therefore they can be regarded as "fractionally literate". These people may never have sufficiently mastered these skills, partly due to defective education in this field. Yet, as table III-9 indicates, fully a third of the adults with st. IV education fall into this category in respect of reading and even two thirds in writing Kiswahili, or else they did not even claim to be literate:

Table III-9: Bukumbi survey, Kiswahili literacy test results and educational standard of those given the test

A. *Reading:*

	No school education		< st. IV		St. IV		Over st. IV	
	M	F	M	F	M	F	M	F
Unable to read	–	–	–	3	2	2	–	–
Had major difficulties	13	–	80	21	31	14	8	1
No major difficulties	7	2	23	10	99	50	116	27
B. *Writing:*								
Unable to write	1	–	4	6	3	5	–	–
Had major difficulties	13	1	72	13	51	23	12	3
No major difficulties	3	1	12	3	78	35	112	25

The only conclusion can be that a considerable number of people, who at one time could read and write at least reasonably well, have lapsed into fractional literacy or have even become completely illiterate. This means, in view of the large number of young people among the literates, that in the past reading and even more writing, have not been functional in the community. Even today one gets the impression that e.g. reading serves more to impress relatives and friends than that it performs a function in the acquisition of useful knowledge. This is not surprising, if one knows that there is almost no suitable reading matter available in the rural area. It is significant in this context that only 168 males and 44 females possessed any reading matter at all. Those who possessed books, could state less than two titles on average, although three had been asked. The type of books mentioned is equally illustrative of the situation. The proportion of religious books (mainly consisting of bibles, hymn books and missals) was conspicuously high, whereas not one book in the agricultural field was mentioned. The titles of many "educational" and "language teaching" books strongly suggested that these books had somehow "disappeared" from the schools (cf. appendix II).

The production of simple booklets may leave much to be desired in Tanzania, it is, however, the system of distribution or rather the complete lack of such a system, which is probably the most important factor. It is impossible to buy non-religious books anywhere in Bukumbi. Small wonder therefore, as appendix II also indicates, that only nine per cent of the peasants claimed that they had read any book in the past month. Even this low percentage is probably too high, because prestige considerations obviously played an important part in answering this question. The distribution of pamphlets produced by the ministry of agriculture is equally poor. It may well be that each year many thousands of them leave the department in Mwanza town, but they do not seem to reach the peasants. Moreover, unless they are attractive in appearance and with a simple layout, their fate is quick destruction by playing children, as our experiment with mimeographed pamphlets on cotton growing techniques demonstrated (cf. p.132).

Indeed, taking everything into the account, one must conclude that if this low level of literacy can play a role in the economic development of the area, so far it appears to have done very little.

Notes and references

1) For a detailed account of the village organizations and the functions they perform cf. the forthcoming study by Miss C. Varkevisser. Former publications on this subject include: Cory (1954), Malcolm (1953), Waziri Juma (1960), Williams (1935), Jellicoe (mimeo 1964) and Vergnes (MS 1944).

2) There can be little doubt, that the breaking-up of the large homesteads of an extended family type which has occurred in Bukumbi and elsewhere in Sukumaland, has led to division of large holdings.

3) It must be taken into the account, however, that the 1967 figure includes non-African residents. Furthermore, after 1957 the population of the eastern part of Mwanza district increased considerably due to immigration of Sukuma from elsewhere. This took the form both of spontaneous settlement and of planned village settlement schemes.

4) For a classification of tribes and subtribes use was made of Goldthorpe & Wilson (1960), Moffett (1958) and especially of Molnos (1965) which is particularly useful as the list of tribes includes many subtribes and synonyms. For other countries the various published parts of the Ethnographic survey of Africa (Ed. Daryll Forde) were used. Nevertheless several problems of classification remained to be solved. The Kabwa (in Mara region) provide a good example.
A manuscript (at the dept. of agriculture in Mwanza town) said about this group: The Bakabwa originally occupied Bukabwa, which is now inhabited by the Wasweta. They were driven out to Musoma by the Wasimbiti and with the aid of a few Yaluo held their own there, until the Mkwaia chief received reinforcements from Mwanza, when they fled to Usimbiti. Thence they made their way to the present settlement of Magana. There are also a number of Waruhu who were driven out in the course of the petty family affairs of the Wasimbiti.

5) Neither the Manyema nor the Sudanese are real tribes. Leslie (1963, p.47) stated: "The Manyema are partly descendants of the slaves from the Congo, the name itself being taken from an area in the Congo, and partly of a company of mutineers who fled in Belgian times from the Congo, many to join later the German forces; and the Sudanese or Nubi are the remains of the askaris demobilized after the first war... The Sudanese do not even all come from the Sudan..." Oddly enough he also mentioned that "the two groups have some things in common, a predominance of old people, and of old women in particular among their number".

6) The Sukuma working at the ginnery, who live in the labour camp, for the most part stay there permanently and do not go home for planting. This was demonstrated when in November 1965 a second visit was paid to the labour camp. Although the total number of labourers had halved, the number of Sukuma had remained about the same (49 in June and 47 in November). The Rundi, Rwanda, Ha and most Nyamwezi had gone home.

7) For a detailed account of the history of primary education in Bukumbi may I refer to the forthcoming study by Dubbeldam.

STELLINGEN

I

Het verdient aanbeveling dat docerende stafleden van de afdeling sociale geografie van de niet-westerse landen met enige regelmaat veldwerk verrichten op het terrein van hun specialisatie. Daartoe zou een permanente researchpost moeten worden gecreëerd.

II

Bij het onderwijs in de culturele antropologie, de sociologie der niet-westerse volken en de sociale geografie der niet-westerse landen, moet de theorie en praktijk van de moderne onderzoeksmethoden meer nadruk krijgen.

III

Het is gewenst dat, ongeacht de uitslag van het in 1969 te houden referendum op West Nieuw Guinea, een gedeelte van de aan Indonesië verleende hulp door Nederland wordt bestemd voor ontwikkelingsprojecten op Nieuw Guinea.

IV

Het door de International Geographical Union gemaakte onderscheid tussen "shifting cultivation" en "land rotation", waarbij het begrip "shifting cultivation" werd gebonden aan tijdelijke bewoning en "land rotation" aan permanente vestiging, verdient geen navolging. "Land rotation" moet gereserveerd blijven voor een meer planmatige afwisseling tussen bebouwing en braak, zoals o.m. het geval is bij de paysannaten in Congo.

International Geographical Union: World Land Use Survey, 1952.

V

De nadruk welke thans in Tanzania gelegd wordt op "rural development" is toe te juichen. De nationalisatie van banken en een aantal bedrijven in buitenlandse handen heeft aan dit streven echter afbreuk gedaan.

VI

Muddathir bewijst de sociale wetenschappen een slechte dienst door te stellen: "Die Wirtschaftswissenschaft scheint für die Analyse der Probleme rückständiger traditioneller Länder nicht genügend vorbereitet zu sein, da sie früher ihre Aufmerksamkeit fast nur den entwickelten Ländern gewidmet hat", terwijl hij dit bezwaar ten aanzien van de sociologie "kein Anlass für einen ernsten Vorwurf" oordeelt.

Muddathir, A.: Der soziale Rahmen der Industrialisierung in den Entwicklungsländern; Hannover, 1965, p. 17 en 19.

VII

Uit oogpunt van verkeersveiligheid verdient het aanbeveling het aantal verkeersborden te beperken.

Utrecht, 20 september 1968

J.D. Heijnen.

CHAPTER IV

THE SETTING, MWANZA TOWNSHIP

1. *Location and chief characteristics.* With more than 25,000 Africans and several thousand inhabitants of Asian origin, Mwanza township is Tanzania's third largest town. Situated on the southern shore of Lake Victoria, where it is breached by the Smith Sound/Mwanza gulf, Mwanza town has become the chief centre of trade in the southern part of the lake area. Already in 1906 under the German administration, the first pier – at present known as Mwanza north port – was completed. Since then the amount of cargo handled has risen steadily. Initially the produce from the surrounding district – mainly groundnuts and cotton at the time and from Bukoba chiefly coffee, hides and skins – were exported via Kisumu (Kenya). In 1928, however, the branch line of the central railway from Tabora reached Mwanza town, so that a direct connection by rail was established with the coast (Dar es Salaam). It is of interest to note that much of the early traffic on the lake was carried by Indian owned dhows, in direct competition with the official lake steamer service operated by the Uganda and Kenya Railways. About 80 per cent of these dhows were stationed at Mwanza, where the shelving beach near Kirumba offered a suitable site for building and repair (Ford, 1955, p.37). In 1938 the dhow traffic reached its peak, when the total freight carried amounted to 36,771 tons, which the railways interpreted as a loss in revenue of £ 38,848 (Ibid. p.41). In the following year new transport ordinances became operative and the railways introduced new competitive rates for the principal commodities which were until then carried by the dhows. As a result dhow traffic declined without, however, becoming completely extinct. Especially around Mwanza town the dhows continue to serve the many small ports that are not tapped by the East African Railways and Harbours. Many dhows are now African owned.

As a result of the economic development in the whole lake area, the goods traffic increased considerably and the old pier was insufficient to cope with the greater demand. Hence a new port was constructed. In 1960 the much larger and better equipped Mwanza south port was completed. The old north port is now mainly used for the embarkation and disembarkation of passengers. The *E.A.R. & H.* at present provide employment for some seven per cent of the total working population of Mwanza town.

The government is the chief employer in the township. In our second Mwanza town survey 21.7 per cent of all respondents who performed work for pay or profit were employed by the government or the Mwanza town council. The township is the administrative centre of Mwanza region and -district, economically one of the most important areas of Tanzania. It is also the seat of the Victoria Federation of Co-operative Unions (*V.F.C.U.*), which handles the bulk of the country's chief export crop, cotton.

Whereas the wage employment figures for Tanga and especially for Dar es Salaam have risen steadily since Independence, this has not been the case in Mwanza town. In particular the manufacturing sector has remained small and static. Manufacturing in Mwanza township is mainly confined to agricultural processing (grain- and oil mills, cotton ginning) and a few small industries of purely local significance, such as a coca-cola factory. This is chiefly due to the absence of cheap energy: oil has to be transported by rail all the way from the coast (Dar es Salaam). Recently, however, local Indian businessmen have set up a fishnet factory and a shirt factory. Several other new projects are now under consideration, amongst others a large textile mill, which will boost employment in the manufacturing sector.

Table IV-1 shows the relative importance of the various industrial sectors:

Table IV-1: Number of registered employees in the various sectors of industry and trade in Mwanza town

	1964	1965	1966
Agriculture	355	327	376
Mining and quarrying	11	12	10
Manufacturing	952	965	978
Construction	1,767	859	724
Electricity and water	72	231	292
Commerce	1,281	1,247	1,186
Transport and communications	990	899	916
Services	1,564	1,815	1,924
Total	6,992	6,355	6,406

Source: C.S.B.: Employment and Earnings, 1966, p.27; 1967, app.XIV.

Manufacturing in this table includes vehicle repairing (garages), which forms a substantial part of the total employment in this sector. Commerce includes trading (export/import, wholesale and retail), co-operative marketing (*V.F.C.U.* !), banking and finance. The fall in construction employment in 1965 was due to the decrease mainly in public construction, the increase in the sector Electricity and water in the same year can be attributed to the beginning of the construction of a water pipe line for the planned new textile mill.

2. *Wards*. Administratively Mwanza township is divided into eight wards, each of which more or less has its own character. During our first Mwanza town survey, the number of respondents canvassed in each ward was (cf. map 6):

Table IV-2: First Mwanza town survey, sample population canvassed in each ward

Ward	Males	Females	Total	Ward	Males	Females	Total
Nyamanoro	124	102	226	Mbugani	136	127	263
Kirumba	121	108	229	Market	85	67	152
Isamilo	52	37	89	Central	10	6	16
Mirongo	130	135	265	South	294	243	537

The differences in size of the African population of the various wards already indicate the different functions of the wards. Central ward e.g. is the chief business centre. The principal private offices, banks and shops, as well as most government departments are found here. As could be expected the people living here are chiefly of Asian origin. The western part of Central ward and Isamilo traditionally provide the living quarters for the Europeans. This is still the case, although increasingly as the policy of Africanization is carried out, Europeans are replaced by African officials and their families. Kirumba is the area where most middle class Africans (well-to-do traders, clerks) are living. Mwanza south and to a lesser extent also Mbugani and Nyamanoro are chiefly inhabited by semi-skilled and unskilled labourers with their families. Mbugani is the only ward where females constitute a majority in our survey. This can be attributed to the fact that many women trading in the market as well as a number of prostitutes and barmaids have rented accommodation here.

3. *Tribal composition of the population*. Table IV-3 summarizes the chief data obtained in this respect during the second Mwanza town survey:

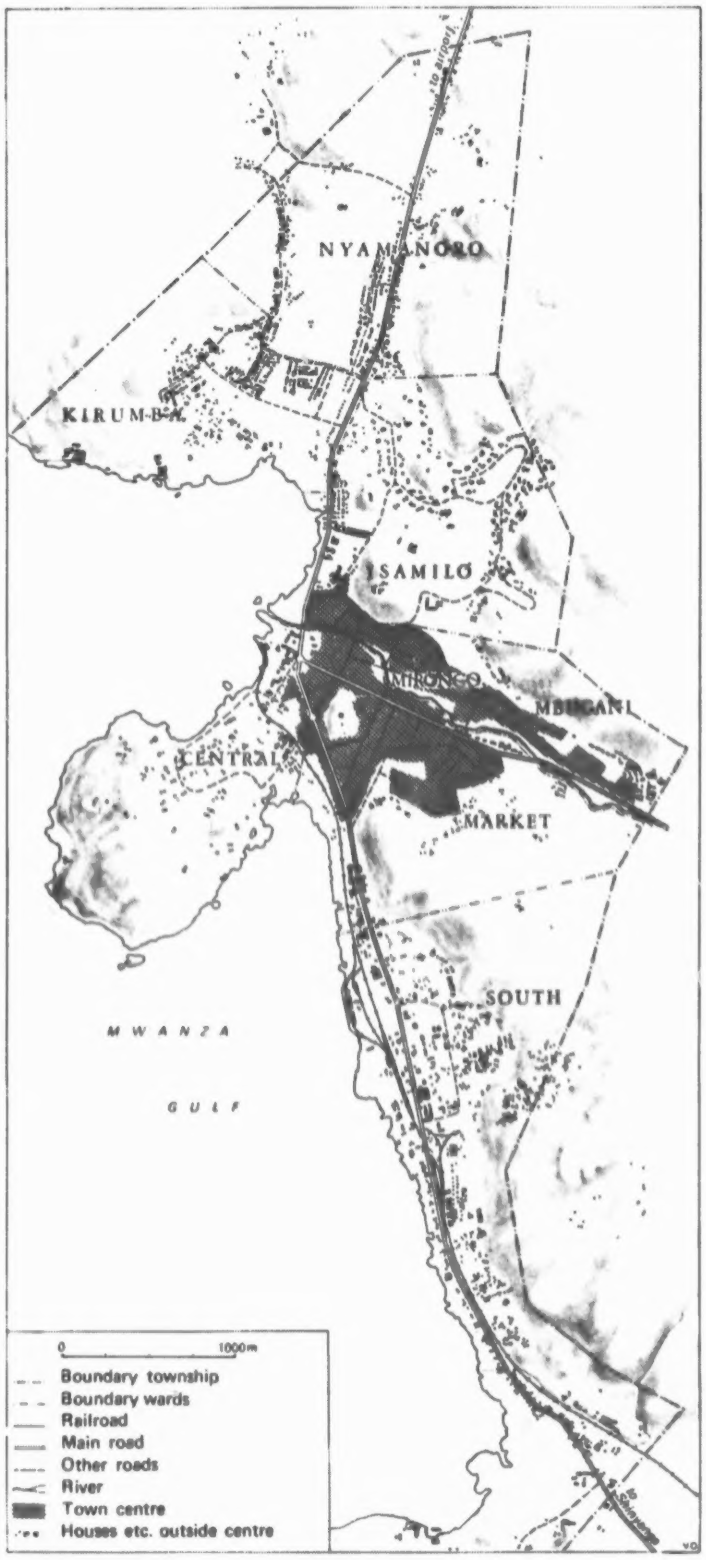
Table IV-3: Second Mwanza town survey, tribal composition of the sample population

	Males	Females	Total			Males	Females	Total	
	Abs.	Abs.	Abs.	%		Abs.	Abs.	Abs.	%
Sukuma	239	244	483	26.7	Tribes Mara region	95	68	163	9.0
Nyamwezi	124	100	224	12.4	Other tribes Tanzania	213	132	345	19.1
Kerewe and Kara	37	41	78	4.3	Tribes Kenya	25	15	40	2.2
Haya	75	79	154	8.5	Tribes Uganda	21	15	36	2.0
Zinza	10	34	44	2.4	Tribes other countries ")	68	79	147	8.2
Luo ')	50	39	89	4.9					

') Includes both the Tanzania and the Kenya part of the tribe.

") This category includes amongst others the Sudanese (or Nubi), Manyema and Rwanda. Many of them have been born in Mwanza town or elsewhere in Tanzania (e.g. at Kigoma) and may therefore be regarded as Tanzania nationals. Cf. appendix V and note 3 of chapter III.

Map 6: Mwanza town


to airport
NYAMANORO
KIRUMBA
ISAMILO
MIRONGO
MBUGANI
CENTRAL
MARKET
SOUTH
MWANZA
GULF
0
1000m
Boundary township
Boundary wards
Railroad
Main road
Other roads
River
Town centre
Houses etc. outside centre

A full list of the tribes recorded and the number of respondents belonging to these tribes in both surveys is given in appendix IV (cf. also map 7). All together over 70 different tribes from various parts of the country were recorded, of which more than 60 occurred in both surveys. The total number of tribes in Tanzania is about 120. 39 tribes from Kenya, Uganda and other countries were represented in the surveys.

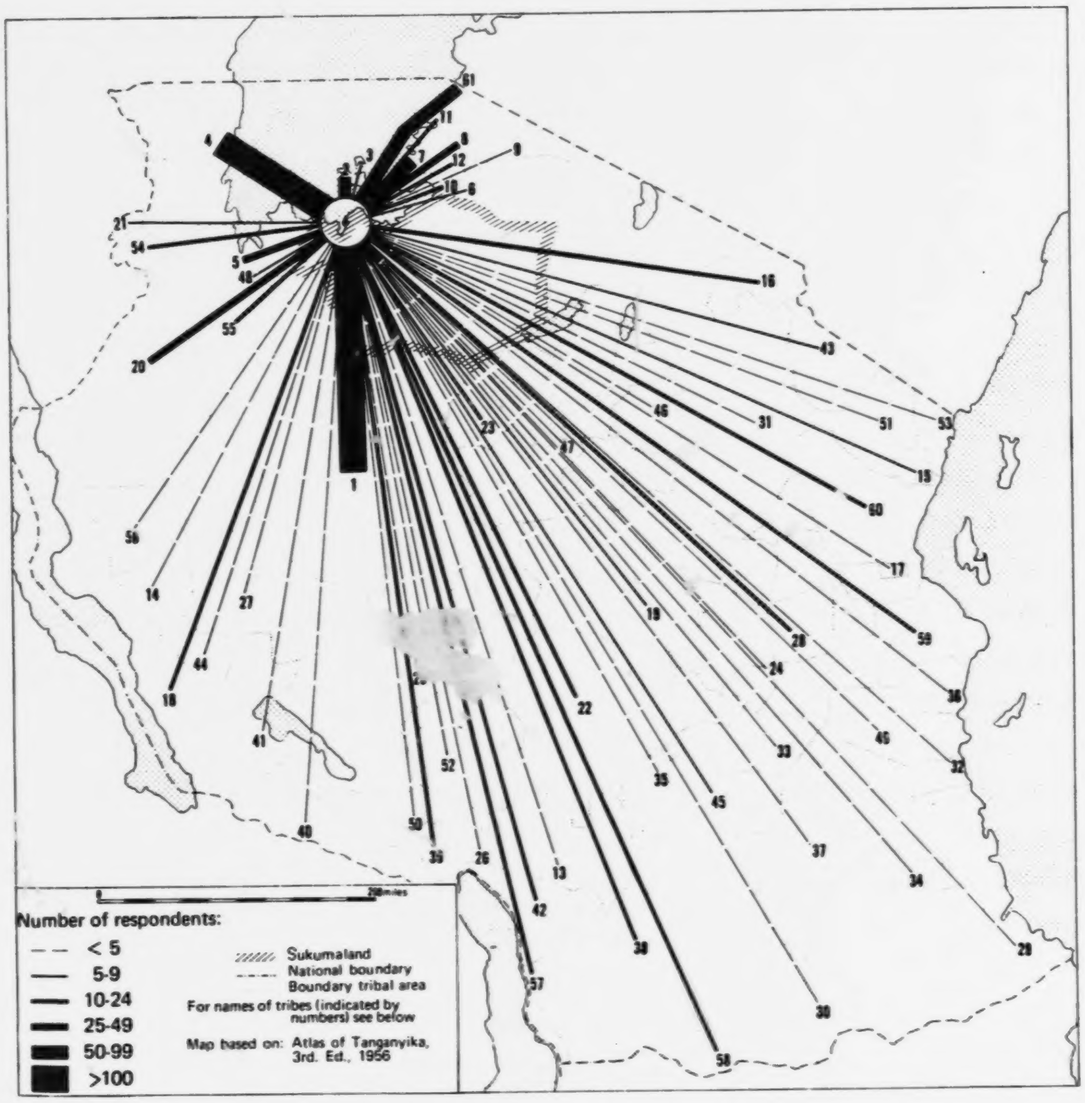
Although migration will be treated separately in chapters V and VI, a few further comments seem indicated. Firstly, despite the fact that Mwanza town is situated in the heart of Sukumaland which has a population of nearly 1,500,000, no more than just over a quarter of the urban population is Sukuma, i.e. less than 7,000. These two figures clearly demonstrate the low migration rate of the Sukuma, particularly if it is taken into consideration that about half the number of Sukuma canvassed in our surveys had either been born in town or at least were long term residents (ten years and over). Furthermore it is of interest to note that the number of females among the Sukuma and neighbouring tribes like the Zinza, Kerewe, Kara and Haya is greater than that of males, whereas the opposite is true for migrants from more remote areas. The only notable exception are the predominantly Moslem Nyamwezi. At first sight, the category "tribes other countries" appears to constitute another exception to this rule. However, many women in this category are Manyema and Sudanese who have been born in town. Lastly, as map 7 shows, several tribes from the southern highlands such as the Nyakyusa, Pangwa, Wanyasa, Ngoni and Yao are comparatively strongly represented in Mwanza township. Most migrants belonging to these tribes said, when interviewed, that they had migrated because of the unfavourable economic conditions in their home area. They had come to Mwanza town, because Mwanza had a good reputation for job opportunities in their home district.

4. *Period of residence in town.* In table IV-4 the main results of a question on this subject in our second Mwanza town survey are given, together with the comparable data obtained in the first survey:

Table IV-4: First and second Mwanza town survey, period of residence in Mwanza town of respondents

	First survey		Second survey			
	Total		Males	Females	Total	
	Abs.	%	Abs.	Abs.	Abs.	%
No data	32	1.8	5	4	9	0.5
Less than six months	172	9.7	77	105	182	10.1
6 - 11 months	116	6.5	60	50	110	6.1
1 year	137	7.7	103	89	192	10.6
2 years	135	7.6	83	53	136	7.5
3 - 4 "	248	13.9	143	90	233	12.9
5 - 9 "	294	16.5	172	125	297	16.4
10 - 14 "	133	7.5	76	66	142	7.9
More than 14 years	238	13.4	125	107	232	12.7
Lifetime	272	15.3	117	159	276	15.3

Map 7: Second Mwanza town survey, tribal origin of non-Sukuma respondents (Tanzania only)


0
200 miles
Number of respondents:
< 5
5-9
10-24
25-49
50-99
>100
Sukumaland
National boundary
Boundary tribal area
For names of tribes (indicated by numbers) see below
Map based on: Atlas of Tanganyika, 3rd. Ed., 1956

(tribes indicated on map 7)

1 Nyamwezi 2 Kerewe 3 Kara 4 Haya 5 Zinza

Tribes Mara region:

6 Ikuzu 7 Jita 8 Kuria 9 Nguruimi 10 Shashi 11 Suba
12 Zanaki

Other tribes Tanzania

13 Bena 14 Bende 15 Bondei 16 Chagga 17 Doe 18 Fipa
19 Gogo 20 Ha 21 Hangaza 22 Hehe 23 Iramba 24 Kilosa
25 Kimbu 26 Kinga 27 Konongo 28 Luguru 29 Makonde 30 Makua
31 Masai 32 Matumbi 33 Mbunga 34 Mwera 35 Ndamba 36 Ndengereko
37 Ngindo 38 Ngoni 39 Nyakyusa 40 Nyamwanda 41 Nyiha 42 Pangwa
43 Pare 44 Pimbwe 45 Pogoro 46 Rangi 47 Rimi 48 Rongo
49 Rufigi 50 Safwa 51 Sambaa 52 Sangu 53 Segeju 54 Subi
55 Sumbwa 56 Tongwe 57 Wanyasa 58 Yao 59 Zaramo 60 Zigua
61 Luo

γ

It should be noted that these figures do not necessarily indicate an uninterrupted residence in Mwanza town. Thus someone may have come to town, found temporary employment, afterwards he may have gone home e.g. for cultivation purposes, come back again after several months to try his luck again. Yet, when interviewed he is likely to say that he has lived in town for a year. Understandably most people who temporarily go home do so during the cultivation season i.e. for Sukumaland and adjacent areas from November to February. Besides, most of these "semi-permanent" town dwellers are only recent arrivals in town. This largely explains the differences between the two surveys with regard to the short term residents, as the first survey was carried out in March, when many of those who had gone home for cultivation had not yet returned and the second survey in October, i.e. before the beginning of the next planting season.

Furthermore, table IV-4 indicates that many new arrivals return home (or go elsewhere) after a short period. In fact the figures considerably understate the number of migrants to town, because as a rule those who had stayed in town for less than a month were not interviewed. Many jobseekers do not stay in town longer than a few days or weeks. As will be further elaborated in this chapter and in chapters VII and VIII, the labour market cannot cope with the number of jobseekers and consequently many migrants are forced to give up and go back to their home village. A second factor which deserves mentioning here, and which tends to retard this process, is the prevalence of a system of daily wages. Many employers prefer to engage workers on a daily basis, also for at least part of their normal labour requirements. In comparison with the legal minimum wage of shs 125/- (in Mwanza town) per month, workers on a daily basis are somewhat more expensive. The advantage for the employers is, that in case of dismissal no intricate and time consuming procedures with *N.U.T.A.* and the labour office are required and no severance pay has to be made. Thus e.g. the Mwanza fishnet factory has so many unskilled and semi-skilled personnel on daily contract, that they can immediately drop one of the three shifts, when the sales are below expectation. Consequently, quite a few migrants who initially were able to secure employment on a daily basis, may after some time be forced to return home.

The number of females, who at the time of the interview had lived in town for less than six months is considerably larger than the corresponding category of males. This does not mean, however, that more females come to town than males. In reality of course the opposite is true. But the majority of male migrants who fail to find employment leave Mwanza town within a month – and were consequently not interviewed – whereas females on average tend to stay somewhat longer. In part this remarkable phenomenon is presumably caused by the existing differences in motivation, underlying the decision to migrate. As will be further elaborated in chapter VII, for most males the chief motive is economic. They hope to find permanent employment which to them means a regular and much higher income than can be secured in peasant farming. For many females, on the other hand, migration is in the first place much more an escape from the village- and family control. This largely explains why they are, much more than males, opposed to the idea of returning home. Besides, if they come to stay with relatives in town, as is very often the case with the newcomers, the presence of female guests is generally less felt as a burden by the host if they take a fair share in the domestic chores. Others manage to spin out their stay in town by casual prostitution or by living with a "boy friend". Yet, the employment opportunities for females are still poorer than for males and consequently the great majority of the female jobseekers has to give up after some time, as is clearly demonstrated by the significant drop in numbers after six months. A second explanation for this large number of female newcomers canvassed in the second town survey is suggested by the fact that most of them were married. 32 males and 34 females in this category were unmarried, as compared with 31 married males and 67 married females, who lived with their wife/husband. We may conclude that many women have come to town in order to join their husbands who have found employment, only after the harvesting of the crops. It will be remembered that the second survey was carried out in October.

The explanation for the difference between the number of males and females in the category "lifetime" is to be found in the larger number of female Sukuma, Sudanese, Manyema and Ganda who have been born in town and who have (mostly) taken up petty trading. In addition, quite a few old women in this category own a house which they let and thus secure a reasonable income.

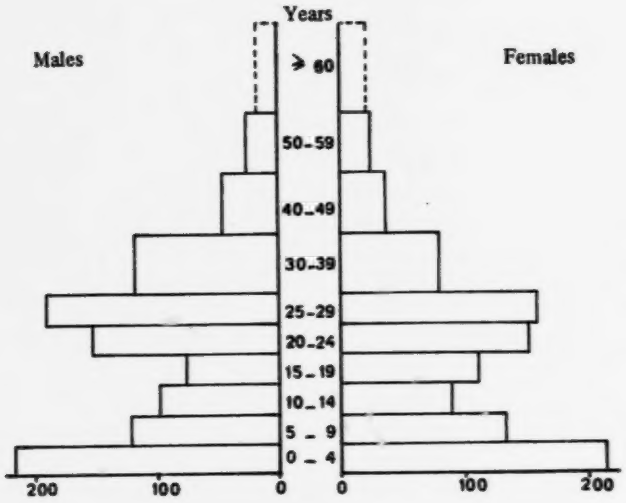
5. *Age structure*. The migration pattern naturally strongly influences the age structure of the urban population. It is remarkable though that there are so few male town dwellers in the age group 15 - 19 years. Many migrants are over 20 years of age when they first come to Mwanza town, but at least a comparable number of younger ones try their luck in town. However, these young people stand an even smaller chance to secure permanent employment or a living from petty trade etc. than the somewhat older newcomers. Apparently, the youngest category of migrants goes back home sooner.

As table IV-5 shows, the average age of the adult female town dwellers is considerably lower than that of males. In part this reflects the lower age at marriage of females. Secondly — and this holds especially true of the category 15 - 19 years of age — also the differences between males and females with regard to their motivation to leave the village and the opportunities to stay in town without paid employment mentioned in the previous paragraph, are of no small consequence here.

Table IV-5: Second Mwanza town survey, age structure of the respondents and of their children and other dependents below ten years of age living with them

	Males		Females		Total	
	Abs.	%	Abs.	%	Abs.	%
No data	1	0.1	1	0.1	2	0.1
0 - 4 years	216	16.6	215	18.0	431	17.3
5 - 9 "	122	9.4	133	11.1	255	10.2
10 - 14 "	99	7.6	90	7.5	189	7.6
15 - 19 "	76	5.9	111	9.3	187	7.5
20 - 24 "	154	11.9	151	12.6	305	12.2
25 - 29 "	191	14.7	158	13.2	349	14.0
30 - 39 "	238	18.3	158	13.2	396	15.9
40 - 49 "	91	7.0	72	6.0	163	6.5
50 - 59 "	53	4.1	50	4.2	103	4.1
60 years and over	57	4.4	57	4.8	114	4.6
Total	1,298	100.0	1,196	100.0	2,494	100.0

Figure 7: Second Mwanza town survey, age structure of respondents and of children under ten years of age living with them



Even when taking into the account the peculiar age structure of the adult town population as shown in figure 7, the number of children in the categories 0 - 4 and 5 - 9 years differs markedly. The explanation is to be found in the fact that more children of the latter age group have been sent to – or left in – the village by the parents: 159 children of 0 - 4 and 186 children of 5 - 9 years of age of the respondents were said to live elsewhere. In case the mother lives in town, this is of course only natural, as babies and very young children need the care of the mother much more than the somewhat older children. These figures do not, however, provide an indication for the extent to which town dwellers leave their children in the rural area. In general, a married migrant will come to town alone. As soon as he has secured employment on a permanent basis, he will rent a room and send for his wife and children. Only in case the income is considered insufficient, one or more children may be left with the grandparents or other relatives.

6. *Religious affiliation*. In comparison with the surrounding rural district, the relative size of the various religious denominations in Mwanza town shows an important difference. The Moslems, only a small minority in the rural area, constitute nearly half of the urban population, whereas the share of the traditional religions dwindless to a mere five per cent:

Table IV-6: Second Mwanza town survey, religious affiliation of respondents

	Males		Females		Total	
	Abs.	%	Abs.	%	Abs.	%
No data	4	0.4	6	0.7	13	0.6
Traditional (no) religion	55	5.7	32	3.7	87	4.8
Protestant	150	15.6	108	12.7	258	14.3
Roman Catholic	343	35.7	260	30.7	603	33.4
Moslem	408	42.5	442	52.1	850	47.0

There exists a close relationship between the period of residence in town, the tribal composition and the religious affiliation. Thus especially the Moslems (Swahili, Zaramo, Zigua, Luguru, Manyema, Sudanese, but also many Sukuma) are long term residents, who often have been born in town. On the other hand the Moslem category also contains a number of Nyamwezi and Haya migrants, who only recently came to town. To a lesser extent the Catholics have long term town dwellers among their number. These are, however, mostly Sukuma (cf. appendix III). A striking fact is also the greater number of Moslem women. This phenomenon is not confined to the older age groups, although the great majority of old women are Moslem. As table IV-7 shows, in most age groups there are more Moslem females than males:

Table IV-7: Second Mwanza town survey, religious affiliation and age structure of respondents

	No data		Tradit. (no)relig.		Protest.		Catholic		Moslem	
	M	F	M	F	M	F	M	F	M	F
No data	–	–	–	–	–	–	–	1	–	–
10 - 14 years	–	–	4	1	8	10	38	33	49	46
15 - 19 "	1	2	2	3	9	20	34	39	30	47
20 - 24 "	1	–	6	6	38	31	66	57	43	57
25 - 29 "	1	1	15	5	34	19	77	61	64	72
30 - 39 "	1	1	17	8	44	17	81	47	95	85
40 - 49 "	–	–	3	1	12	4	31	16	45	51
50 - 59 "	–	–	4	4	2	5	15	1	32	40
60 years and over	–	2	4	4	3	2	1	5	49	44

Also in respect of the occupational structure, religion appears to be of some importance. Until recently the Moslem community in general placed less emphasis on school education (cf. fig. 9). The result is that the Protestants and Catholics largely dominate in clerical and other occupations for which school education is an important prerequisite. It is hardly surprising, that therefore in Mwanza town the Protestants and Catholics now occupy most high level positions in the civil service. In turn the Moslems dominate much of the petty trade and certain artisan-type occupations. This is not true of some of the "new" skills like mechanics, or even of tailoring which is (still) largely controlled by Asians.

Table IV-8: Second Mwanza town survey, type of work performed and religious affiliation of those respondents classed as employed

	No data		Traditional (no) relig.		Protest.		Catholic		Moslem	
	M	F	M	F	M	F	M	F	M	F
Agriculture ')	–	–	4	1	1	–	13	1	5	4
Unskilled labour	–	–	16	1	21	–	73	4	72	10
Building	–	–	4	–	4	–	11	–	16	–
Mechanics	–	–	1	–	5	–	14	–	15	–
Tailoring	–	–	–	–	3	3	9	1	9	1
Other skilled	–	–	3	–	18	–	38	1	57	–
Clerical	1	–	–	–	16	2	24	4	9	–
Trade	1	–	7	1	12	2	28	5	53	29
Domestic	–	–	10	–	10	2	26	5	17	4
Other ")	2	–	3	–	31	10	36	14	32	4

') Including fishing.

") This category includes various kinds of government officials, members of the police force, teachers, overseers etc. The majority of females in this category are employed as barmaid.

The classification "unskilled" or "skilled" should not be taken as a measure for the degree of skill of the respondents, but more as an indication for the type of work performed. Thus the category "tailoring" may well cover some people who are in fact no more than button boys. Mechanics similarly includes grease- and spanner boys. As formal technical training is practically non-existent in Tanzania at the lower levels, it is impossible to obtain a more precise classification in a survey of this type. "Other skilled" includes drivers.

7. *Employment and unemployment.* Particularly in developing economies, the results of a survey in respect of employment and unemployment are to a large extent dependent upon the definitions used for "labour force" etc. For a discussion of this subject may I refer to chapter VII-8. Suffice it to state here that for our survey the labour force was defined as consisting of the total non-institutional population1) aged 15 - 59, with the exception of married women living with their husband who performed no work for pay or profit, and of those respondents who were clearly mentally or physically unable to work. Consequently the figures, especially in respect of females who were classed as "not employed" have to be regarded much more as indicating the theoretical size of the labour reserve than un-

employed in the usual sense of the word. Quite a few women might not readily respond to job opportunities, if they were available.

Table IV-9: Second Mwanza town survey, employment and unemployment

	Males		Females	
	Abs.	%	Abs.	%
Not in the labour force	173	–	620	–
Employed	730	92.8	108	47.4
Not employed	57	7.2	120	52.6

The word employment has been used here in the sense of performing work for pay or profit, i.e. it includes self-employed petty traders, artisans etc. and also those who only work part-time, in the case of Mwanza town mostly women who e.g. sell fried peanuts, fish or meat in the late afternoons near the pombe shops. Prostitutes, however, have not been included in this figure, they were classed as "not employed".

The percentage given for male unemployment is probably too low. In the first place the survey only covered those people who had lived in Mwanza town for at least a month. Secondly, it must be presumed that non-response was rather specific, in the sense that many of those who were temporarily absent at the time of the interviews most likely had no job. An unemployment rate of nearly 10 per cent for males therefore seems to be a better estimation than the 7.2 per cent found in the survey.

Table IV-10 gives some particulars with regard to the categories of employers. E.A.C.S.O. (the East African Common Services Organization) includes the employees of the *E.A.R. & H.*, which have labour lines in Mwanza south, as well as of the post office.

Table IV-10: Second Mwanza town survey, categories of employers of those respondents classed as employed

	Males		Females		Total	
	Abs.	%	Abs.	%	Abs.	%
Government ')	155	21.2	27	25.0	182	21.7
E.A.C.S.O.	60	8.2	–	–	60	7.2
Private entreprise	310	42.5	26	24.1	336	40.1
Private person ")	47	6.4	8	7.4	55	6.6
Self-employed	158	21.6	44	40.7	202	24.1
No data	–	–	3	2.8	3	0.4

') Central government, Mwanza district council and Town council.
") Domestic personnel.

Naturally there is considerable underemployment hidden in these figures, especially in the self-employed category. As the registered wage employment has remained constant (at best) and the urban population has continued to grow – although at a comparatively slow pace – an increasing number of town dwellers must be making a living through some self-employed activity. Small wonder, that we heard some of the longer established laundrymen and petty traders complain about the increased competition. On the other hand, the rising wage level made it possible that more people could earn their living in this way. In general underemployment in Mwanza town implies a low productivity and long working hours and less often a low money income. From the data gathered during interviews on this subject it became clear that the money income derived from many of these self-employed activities compares favourably with the wages paid to unskilled labourers (the legal minimum wage for unskilled labourers is shs 125/- per month in Mwanza town). In some instances a comparatively high income is apparently due to the high monopolistic profits, like in the snuff tobacco trade. More often a reasonable income is earned by working long hours; twelve hours and more per day were frequently mentioned.

The high percentage of self-employed females is another clear indication that the labour market in Mwanza town cannot possibly cope with the number of female jobseekers. Much work which in the developed countries is performed by females is here done by males. It needs very little imagination to figure out the consequences. At the same time, there is little point in complaining about low sexual morale, prostitution etc. when there are no alternatives in the labour market.

8. *School education*. In developing countries the urban areas generally provide most employment opportunities for the small educated and semi-educated class. Mwanza town is no exception to this rule. Little surprising therefore, that the educational level of the population is considerably higher than in the surrounding district (cf. table III-6 for the comparable figures in Bukumbi subdivision). In particular the categories with st.VIII education and above are better represented in town.

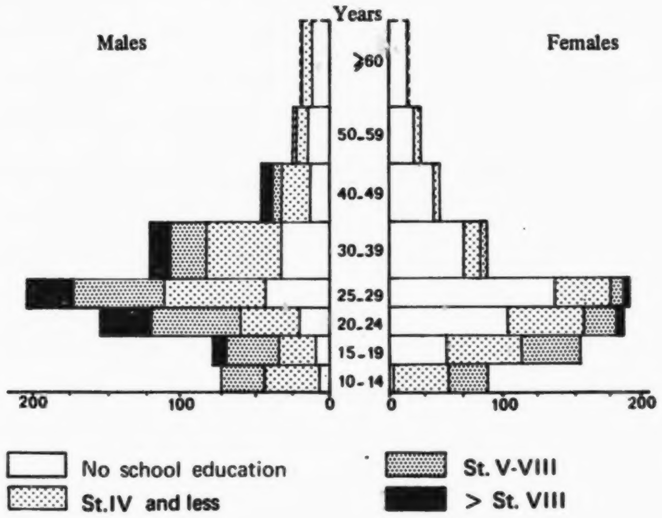
Table IV-11: Second Mwanza town survey, educational level of respondents

	Left school (or never attended)				Still at school		Total					
	Males		Females		M	F	Males		Females		Total	
	Abs.	%	Abs.	%	Abs.	Abs.	Abs.	%	Abs.	%	Abs.	%
No school educ.	243	29.5	493	65.8	–	–	243	25.3	493	58.1	736	40.7
< st. IV	113	[illegible]	87	11.6	27	26	140	14.6	113	13.3	253	14.0
St. IV	150	18.2	85	11.4	22	27	172	17.9	112	13.3	284	15.7
St. V - VII ')	157	19.1	49	6.5	60	36	217	22.6	85	10.0	302	16.7
St. VIII	85	10.3	25	3.3	17	10	102	10.6	35	4.1	137	7.6
Second. I - III	43	5.3	3	0.4	10	–	53	5.5	3	0.4	56	3.1
Secondary IV	20	2.5	1	0.1	1	–	21	2.2	1	0.1	22	1.2
Other ")	12	1.4	6	0.8	–	–	12	1.3	6	0.7	18	1.0

') The survey was carried out before the conversion of the eight years primary course to seven years. This category does not therefore include primary school leavers.

") Technical school, T.T.C. etc. Courses in bookkeeping, typing etc. have not been taken into the account.

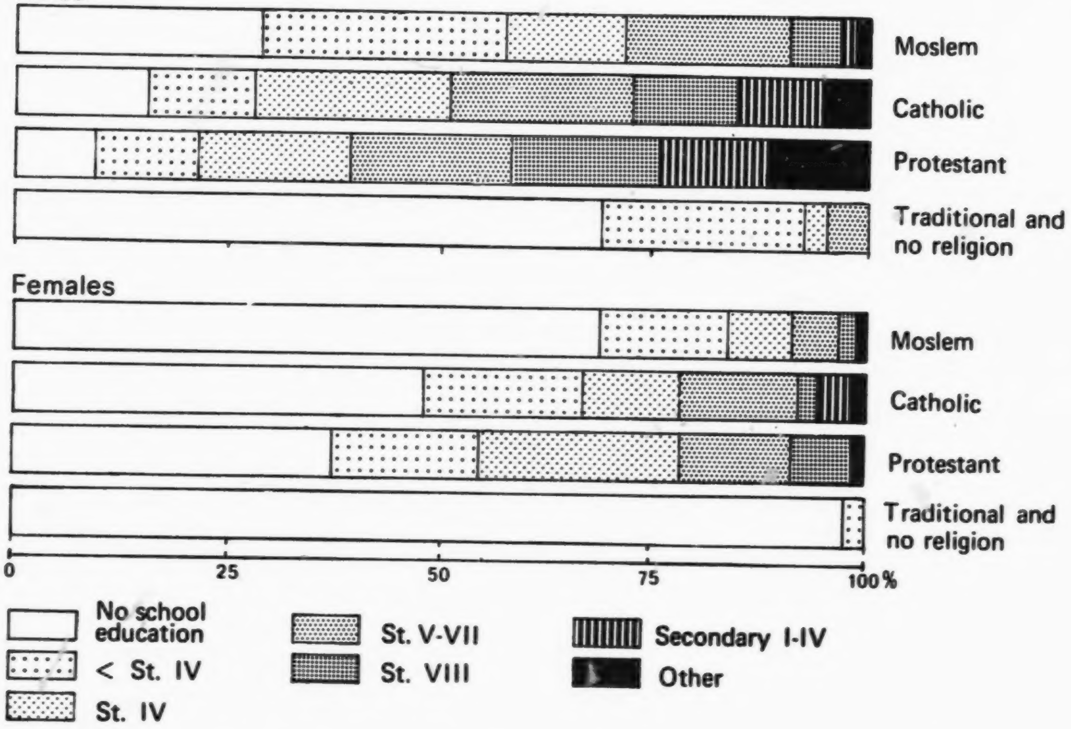
Figure 8: First Mwanza town survey, age structure and educational standard of respondents



The educational gap between adult males and females, already apparent in Bukumbi subdivision, is even wider in town. The chief cause of this phenomenon is obviously the influx of educated and semi-educated jobseekers. Secondly, however, the attitudes of the long term residents themselves, and in particular of the Moslems among them, have influenced this pattern. Lack of interest in school education has long been characteristic for the Moslems in town. Especially girls education was considered useless. Despite the fact that the educational facilities in and around Mwanza town compare favourably with most rural districts, there are only very few Moslems with st.VIII education or higher in Mwanza town.

This attitude changed with the coming of Independence. It became clear that despite the strong position which the Moslems had secured themselves in *T.A.N.U.*, school education remained a prerequisite for the better paid jobs both in the private sector and in government service. At present practically all boys and girls are sent to school, to complete at least st.IV. To some extent the old attitude still prevails in respect of upper primary education for girls, as is also apparent from the school attendance figures in table IV-11. But for girls this feeling is not confined to the Moslems only. Girls get married at a rather early age and st.IV – i.e. the ability to read and write – is considered to be sufficient school training for a married woman. And indeed, in practice there exists hardly any correlation between the educational level of marriage partners. This is certainly not only caused by the small number of educated girls. Many young men with form IV (secondary) education and higher openly admit that they prefer a girl with st.IV education above one with secondary education, as they expect the latter to be too "independent" and refuse to work in the food *shamba* etc.

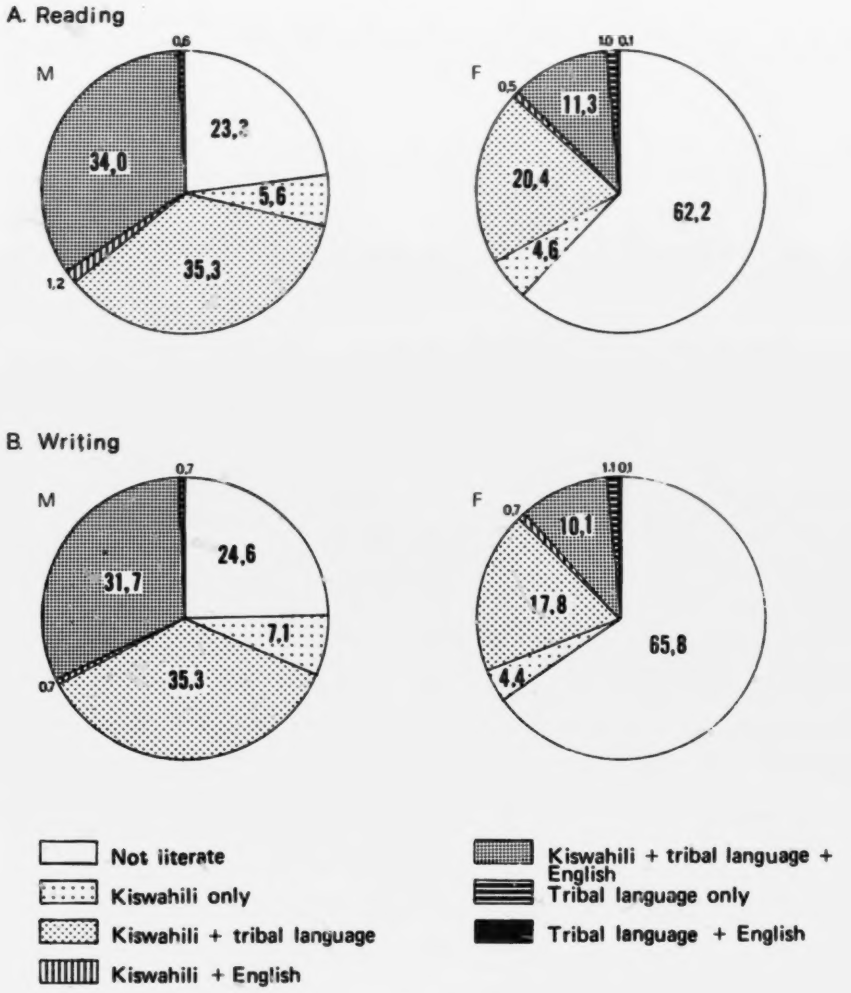
Figure 9: First Mwanza town survey, religious affiliation and educational standard of respondents



For boys the situation is completely different. By now the parents, Christians and Moslems alike, are convinced that the only possibility for their children to find a profitable job is by way of school education. St.VII/VIII education is no longer sufficient to this end, which largely explains the almost fanatical drive for secondary education, which is particularly manifest in the towns. It is also demonstrated by the high percentage of st.VIII repeaters in town (cf. table VI-2; also among those who went to the rural area there are most probably a number of repeaters!). Parents who think that they can afford it, perhaps with the help of relatives, are sometimes even prepared to pay the high school fees (shs 800/– and more per year and much more in the case of a boarding school) of a private secondary school. Some boys are admitted to Lake secondary school in Mwanza town itself. Others are sent to a Harambee school in Kenya, or to some private "college" in Uganda, with the school fees stipulated by the headmaster for the first term. The quality of instruction is often poor and, moreover, after the first term there is usually no money for a second term, sothat the boy is sent back home. Other st.VIII leavers try their luck through bookkeeping- and typing courses (e.g. at the "Mwanza Commercial College"), or via the much advertized tutorial colleges. Few manage to complete their course, again often because there is no money to pay the fees. As to the low educational level of respondents in the "Traditional (no) religion" category in figure 9, may I refer to the remarks made on this subject with regard to Bukumbi subdivision (III-5).

9. *Literacy*. The better educational background of the urban population is naturally mirorred in the results of our first survey with regard to literacy.

Figure 10: First Mwanza town survey, statement of respondents on literacy



Because of the greater number of educated respondents in town, another procedure for the application of the literacy tests was chosen than in Bukumbi subdivision. The Kiswahili test (cf. appendix I) was applied to all respondents who claimed to be literate in Kiswahili, not at school, with st.IV education or less. Similarly the English test was given to respondents with st.VIII education or less. The results of the tests in Mwanza town were as follows (see table IV-12).

It is of interest to note that in comparison with the same table for Bukumbi subdivision (table III-8) the number of respondents who claimed to be literate, but who could not read/ write when the test was applied, is greater in Mwanza town. This is an indication of the

Table IV-12: First Mwanza town survey, literacy test results

	Reading				Writing			
	Males		Females		Males		Females	
	Abs.	%	Abs.	%	Abs.	%	Abs.	%
A. *Kiswahili:*								
Refused test	3	0.3	–	–	4	0.4	1	0.1
Over st.IV education ')	299	31.4	65	7.9	299	31.4	65	7.9
Literacy not claimed	228	23.9	522	63.2	241	25.3	552	66.9
Still at school '')	84	8.8	67	8.1	82	8.6	66	8.0
Tested:								
Could not read/write	17	1.8	16	1.9	36	3.8	21	2.5
Had major difficulties	120	12.6	60	7.3	162	17.0	68	8.2
No major difficulties	201	21.1	95	11.5	128	13.4	52	6.3
B. *English:*								
Refused test	2	0.2	1	0.1	2	0.2	1	0.1
Over st.VIII education ')	89	9.3	11	1.3	89	9.3	11	1.3
Still at school '')	50	5.3	31	3.8	47	4.9	29	3.5
Literacy not claimed	618	64.9	727	88.1	645	67.8	735	89.1
Tested:								
Could not read/write	15	1.6	8	1.0	25	2.6	10	1.2
Had major difficulties	57	6.0	16	1.9	46	4.8	17	2.1
No major difficulties	121	12.7	31	3.8	98	10.3	22	2.7

') In case the interviewer doubted the statement of the respondent regarding his educational standard, the literacy test was applied in any case.

'') Only those school children who claimed to be literate.

greater importance which the people in town attach to literacy and school education in general. Similarly, it must be presumed that quite a few respondents in town claimed a higher educational level than they in fact had, whereas this has hardly been the case in Bukumbi subdivision. This factor naturally influences the results in the following table, which shows the correlation between the results of the literacy test and the educational standard of the respondents:

Table IV-13: First Mwanza town survey, Kiswahili literacy test results and the educational attainment of those respondents who were given the literacy test

	No school education		< st.IV		st.IV		Over st.IV ')	
	M	F	M	F	M	F	M	F
A. *Reading:*								
Unable to read	6	6	4	7	6	3	2	–
Had major difficulties	35	22	50	22	25	13	10	3
No major difficulties	30	14	50	21	114	56	7	3
B. *Writing:*								
Unable to write	11	7	13	9	8	4	4	1
Had major difficulties	41	13	53	24	57	26	11	5
No major difficulties	14	2	31	8	80	41	3	–

') Only those respondents of whom the interviewers doubted whether their statement about their educational level was right.

At the same time, however, the test results in Mwanza township are far better (in respect of reading especially) than in Bukumbi subdivision. The writing abilities of the town residents and the rural people of the same educational level differ less markedly. Clearly reading is much more functional in the urban environment than in the rural area. An important factor in this context is, that in town reading matter is readily available, including the daily and weekly newspapers in Kiswahili.

10. *Cultivation of fields by town residents.* A considerable part of the urban population derives extra income from the cultivation of food and/or cash crops. As table IV-14 shows, some 35 per cent of all families living in town and nearly a quarter of the unmarried town residents in our survey cultivated a *shamba*, either within or outside the town boundaries. A correlation has been made here only for family units (heads of households) and for unmarried respondents who rented one or more rooms themselves:

Table IV-14: Second Mwanza town survey, cultivation of fields by families and unmarried respondents who rented one or more rooms in town

	Field in town		Field in home village		Field elsewhere		No field cultivated	
	M	F	M	F	M	F	M	F
Unmarried	9	19	26	15	4	5	144	100
Married:								
Living with husband/wife *)	41	3	107	2	15	1	310	12
Husband/wife elsewhere	1	2	42	8	2	2	47	19

*) In case the husband could not be interviewed, the required data were completed on the questionnaire of his wife.

With the exception of new arrivals who had stayed in town for less than a year, the greatest frequency is encountered among the long term residents who have been born in town or have lived there for at least fifteen years. This is solely caused by the fact that in our sample out of the 75 fields cultivated by respondents within the boundaries of the township, 61 were held by these long term town dwellers. This makes more than good the smaller number of *shambas* cultivated by them in their home villages.

Table IV-15: Second Mwanza town survey, cultivation of fields by families and unmarried respondents, correlated with period of residence

	Field in town		Field in home village		Field elsewhere		No field cultivated	
	M	F	M	F	M	F	M	F
No data	–	–	–	2	–	1	4	1
Less than one year	–	–	33	7	1	2	65	9
1 - 4 years	1	–	68	6	2	–	180	33
5 - 9 "	4	5	40	4	3	–	106	19
10 - 14 "	3	1	15	2	1	–	47	10
More than 14 years	30	10	12	8	9	2	69	28
Lifetime	13	8	7	2	5	3	30	21

The table also demonstrates, that despite a long period of residence in Mwanza township, many people (a quarter or more) continue to cultivate a field in their home village. Only the last two categories show lower percentages. Part of the fields in town and in the vicinity ("field elsewhere") are rented at a rate of shs 50/– and more per acre per year.

Correlated with the occupation of the head of the family or of the unmarried respondents themselves, the following categories were most frequently encountered: unemployed (18); not in the labour force (60 years of age and older, not working) (10); trade (15) and unskilled labour (9), an indication that the majority of the people who cultivate a *shamba* belong to the lowest income categories.

In 1966 the Mwanza Town Council forbade the cultivation of fields within the boundaries of the township, unless the express consent of the town council is obtained. This measure, apparently taken on sanitary and hygienic grounds, met with considerable opposition and was not strictly enforced. It clearly hits the low income categories, including a number of small traders who sell part of their produce in the market.

11. *Housing*. The most common type of house in Mwanza town is the Swahili house, as described for Dar es Salaam by Leslie (1963, p.70), in many variations. In principle, the main building has six rooms, three on either side of a wide corridor which divides the house into two parts. The house usually has a cement floor, the walls are made of plastered mud bricks and the roof is made of corrugated iron. The back door opens on a small courtyard, which is surrounded by a toilet and kitchen at the back and two or more rooms (usually cheaper and of poorer quality than the main building) on both sides. The quality of the houses of this type varies considerably. Some of the new houses e.g. have walls of cement blocks, with neatly plastered walls, solid window frames and shutters. Many of the older houses of this type are in a bad state of repair, the original plaster has largely disappeared and the cement floor has disintegrated.

Good quality housing is also provided by the housing schemes located in Kirumba and Nyamanoro ward, near the road from the town centre to the airport (cf. map 6). In Mwanza south, and to a lesser extent also in Mbugani and Nyamanoro, there are many houses of a very poor quality, some of them even with thatched roofs (which is forbidden by the fire regulations) or madebe (flatted tins), with mud walls and floors.

With the exception of a number of old (widowed or divorced) people who are mostly long term residents in town, the unmarried town dwellers and the majority of the families rent the room(s) they live in:

Table IV-16: Second Mwanza town survey, principal occupants of houses (rooms), marital status and ownership status of the house they live in

	House owned		No rent paid		Rent paid		No data	
	M	F	M	F	M	F	M	F
Not married	13	38	14	17	156	71	–	–
Head of family ')	100	7	70	3	385	4	10	2
Member of family ")	–	2	–	–	–	16	–	–
Females, husband living elsewhere	–	5	–	8	–	15	–	–

') Including divorced and widowed respondents with children under age.
") Husband not present during interviews.

As might be expected, the house owners are mainly long term residents. 131 out of the 165 house owners in our survey had lived in Mwanza town for at least 15 years or had been born in town. In view of the tribal composition of these long term town dwellers, it is hardly surprising that there are relatively many Sukuma (68) and "tribes other countries", i.e. Sudanese and Manyema (23) among their number.

Practically all unmarried respondents, but also the great majority of the families had only one room at their disposal. Many bachelors, moreover, share their room with one or more friends:

Table IV-17: Second Mwanza town survey, residential units in sample: number of rooms and persons per unit (including children under ten years of age)

Number of occupants	Number of rooms				
	One	Two	Three	More than three	No data
One	286	17	6	6	1
Two	195	40	8	2	1
Three	75	38	11	1	1
Four	55	28	3	6	1
Five	30	26	10	5	2
Six	7	14	7	2	–
More than six	5	21	12	14	–

Although undoubtedly there exists some correlation between the number of occupants and the number of rooms, it is equally clear that most houses are severely overcrowded. Thus a single Swahili type house which consists of ten rooms may be inhabited by the owner of the house who e.g. occupies two rooms and eight tenants who each occupy a room, some of them with their wife and children, or with friends who share the accommodation.

It is noteworthy that the inhabitants of a house only rarely belong to the same tribe. Antagonism between the various tribes is almost non-existent and a mixture of many different tribes is the rule rather than the exception.

12. *Mobility*. The mobility of the town population is extremely high. This is not only caused by migration, but also moving house within the town is of frequent occurrence. The reasons why somebody decides to move are manifold, failure to pay the house rent, difficulties with the house owner or other tenants, the opportunity to rent a better or cheaper room, suspicions about the faithfulness of wife etc.

For our second survey in Mwanza town, the same sample was used, i.e. the same houses were revisited after six months. It turned out, that only just over half the respondents interviewed the first time could be interviewed again (see table IV-18).

Table IV-18: Second Mwanza town survey, whereabouts of respondents in first survey

	Males		Females	
	Abs.	%	Abs.	%
Still in the same house	495	52.0	438	53.0
On safari, holidays etc.	20	2.1	22	2.7
Died	3	0.3	2	0.2
In prison	2	0.2	–	–
Elsewhere in Mwanza town	122	12.8	98	11.9
Left Mwanza town	119	12.5	96	11.6
Whereabouts unknown	191	20.0	169	20.5

It may be, that in a few exceptional cases, because of a mistake made during the first survey, the same house could not be found the second time. But in the great majority of cases the present occupants simply did not know the whereabouts of their predecessors (or pretended not to know, following the rule "to mind one's own business"). Of those who left Mwanza town, it is of course far from certain that they left for good. Some of them probably just went home for cultivation purposes etc. and vacated the room, in order to save on house rent. In the second survey, almost half the number of people who came to Mwanza town after the completion of the first survey, had lived in town before.

Notes and references:

1) The non-institutional population is the total population, excluding the people in hospital, prison, boarding schools etc.

CHAPTER V

MIGRATION; CAUSES AND CONSEQUENCES

1. *Historical development.* Considering the fact that the main Arab trade routes bypassed Sukumaland, it is somewhat surprising to learn that the Sukuma played an active role in the caravan trade. Not only did they provide an appreciable share of the porters for the Arab caravans to the coast, many journeys were also undertaken at their own risk. Thus on 11th July 1858 Speke (1864, p 267-8) recorded: "We passed . . . . two Wasukuma caravans with ivory destined for the coast, and the other conveying cattle to the Unyanyembe markets". In the second half of the nineteenth century the turn-out must have been quite extensive. An old mission diary, quoted by Hendricks (1959, p.12) stated: " 8/7/1885: Great sorrow in many households in Bukumbi, because last year 250 Bakumbi started the journey to the coast, of whom only 100 came back" (translated from Kisukuma). At the time Bukumbi chiefdom did not include the northern part of the present subdivision, Buhongwa *gunguli*, which was then a separate chiefdom. Allowing for only a very moderate increase of the total population, the figure of 250 Bakumbi must have represented some ten per cent of all males between 16 and 35 years of age!

In the course of time the Sukuma established a special relationship, called *utani*, with the most important tribes on the usual route to the coast. Shrivenov (1937) mentions the Gogo, Sagara, Kami (a subtribe of the Luguru), Zaramo and the Zigua. Leslie (1963, p.36) adds the Nyamwezi and the Ngoni to this list. The meaning of this *utani* relationship is somewhat different for the various tribes (cf. Moreau, 1941 and Leslie, op.cit.). It generally implied at least absence of hostility for travelling tribesmen in each other's territory. In some cases the term joking relationship seems a justified translation.

After the arrival of the Germans the Sukuma were employed in large numbers on the construction of the central railway line from Dar es Salaam to Kigoma, and later, under the British administration, on the branch line from Tabora to Mwanza town, which was completed in 1928. When the first sisal plantations were started in the country the Sukuma together with the Nyamwezi 1) often formed the reliable core of the labour force on the estates.

By way of sharp contrast, Tanzania's largest tribe ranked only 23rd on the list of tribes recorded in Leslie's survey of Dar es Salaam (Leslie, 1963, p.273). They were outnumbered by viz. the Nyamwezi (who ranked 6th), Ngoni (12th), Makonde (16th), Hehe (17th) and even by the Haya (22nd). Moreover, among these Sukuma there were many descendants of freed slaves and porters who had stayed at the coast. In the 1950s the bureau set up in Mwanza town to engage labourers for work on the sisal estates had to be closed down, due to lack of interest shown by the Sukuma. The mining industry in Sukumaland (Williamson's Diamond and until recently the Geita gold mine) was forced to recruit the greater part of its labour force from outside Sukumaland. Even a comparatively small enterprise like the Ng'walugwabagole ginnery in Bukumbi subdivision had to attract labour from outside. In its labour camp the other tribes outnumber the Sukuma by four to one.

The same apparent lack of interest in labour migration is reflected by the data collected in our Bukumbi survey:

Table V-1: Bukumbi survey, previous labour migration of respondents recorded ')

	Males		Females	
	Abs.	%	Abs.	%
No data	–	–	1	0.1
Never worked outside Bukumbi	573	76.3	799	96.6
Mwanza town	30	4.0	4	0.5
Elsewhere in Sukumaland	35	4.6	6	0.7
Dar es Salaam	6	0.8	2	0.2
Elsewhere in Tanzania	18	2.4	5	0.6
Abroad ")	32	4.3	2	0.2
No particulars '")	57	7.6	9	1.1
Total	751	100.0	828	100.0

') With the exception of the labourers of the labour camp of Ng'walugwabagole ginnery.

") This category includes 26 men who were recruited during the second world war to serve in the army.

'") Mainly respondents who worked in several places before coming to Bukumbi, like teachers, former agricultural instructors, drivers, workmen P.W.D. Almost all of them were non-Sukuma.

For an explanation of the discrepancy between the total number of male and female respondents, may I refer to p. 36. Suffice it to state here that recent migration to Mwanza town or other urban areas has contributed to a very limited extent only. Even in Mwanza town, the very heart of their territory, the Sukuma form only a quarter of the total population, estimated at over 25,000. A very small number, when compared with the total of nearly 1,400,000 Sukuma. Moreover, nearly half the number of Sukuma respondents in Mwanza town were born there or had resided in town for at least ten years.

It can be concluded that after a very active initial participation in the caravan trade and in labour migration, the Sukuma became less inclined to leave their villages. The present rate of migration to urban areas is probably lower than for most other tribes in Tanzania.

2. *Present trends.* Now to explain this remarkable development? Before Independence in 1961, the labour migration throughout Tanzania was characterized by its temporary nature and the rather limited economic goals of the migrants. The wages for unskilled labour paid in the modern sector of the economy were very low. Consequently they were attractive only for unmarried young men who wanted money for some specific purpose, e.g. the payment of bride price, tax or clothing. Money was needed as a commodity, and not as a means to earn a permanent livelihood. These characteristics led to the concept of "target migration" (cf. Moore, in: Herskovits & Harwitz, 1964, p.277). In Sukumaland the successful introduction of cotton and, after 1950 the rapid expansion of its production, meant that it became feasible to satisfy these as yet very modest cash requirements at home and the migration rate decreased accordingly.

Yet, after 1961 the nature of migration changed fundamentally, as did the position of the workers in the urban areas and on the plantations. Only ten years ago Cory (MS 1957) still could write that "the improvement in the standard of living and the possibility to earn money at home have made unnecessary the large scale migration of labour that was formerly such a notable feature . . . ." Today such a statement would make little sense, despite the enormous increase of the cotton production in Sukumaland. Admittedly, the result – i.e. a low migration rate to the urban areas – is still largely unaltered. Yet, it cannot be denied that the reasons for the decision to stay at home have changed. In Sukumaland and presumably everywhere in the country there has been a gradual but persistent change in attitudes with regard to labour migration. The first consideration is no longer limited wants, which can or cannot be satisfied at home, but the unfavourable job propspects in the urban areas and the living conditions there. There can be no doubt, that if job opportunities existed, the response would be immediate, and large numbers of Sukuma would flock into the towns.

3. *Wage levels in the cash economy.* An important factor which has caused this shift in emphasis is the rapid increase of the wage and salary levels that has taken place since Independence. Before 1961 wages of shs 80/– or less per month were common. Since then

the minimum wage legislation (1962) and subsequent wage agreements between individual firms or employers associations and N.U.T.A. (National Union of Tanganyika workers) have provided for substantial increases of all wages, but especially in the unskilled sector. For Mwanza township e.g. the legal minimum wage now amounts to shs 125/- per month. Since September 1966, in most sectors of private industry and trade the minimum wages for unskilled labour work out at over shs 6/– per working day (shs 155/– per month). Drivers, shop assistants, semi-skilled machine operators and general clerks have to be paid at least shs 205/–, whereas skilled mechanics, artisans and junior clerks are to receive a minimum of shs 255/– per month. For Tanga and Dar es Salaam the corresponding figures are even higher, successively shs 180/–, shs 230/– and shs 280/– per month (cf. Trades Disputes, Extension of Award, Order 1966). In some industries the minimum wages are even considerably higher. Thus in June 1966 an agreement was signed between N.U.T.A. and the Tanganyika Motor Traders Association which fixed the minimum wage upon engagement at shs 185/– in Mwanza town. At the same time an increase was awarded to all employees already engaged. The highest wages for unskilled labour are, as far as I know, paid by the East African Cargo Handling Service (Dar es Salaam), with a minimum wage of shs 343/– per month. In addition manual grade staff are entitled to a 30 day's annual leave (Monthly Stat. Bulletin, Oct. 1966, p.6). Not surprisingly therefore, we found that the average wage of thirteen st. VIII leavers–1965 in Mwanza town, who had found paid employment by January 1967, then amounted to shs 161/–, ranging from shs 125/– (the legal minimum wage for Mwanza township) to shs 185/– per month. In 1965 the median wage in Mwanza town already amounted to shs 186/–. For Dar es Salaam the corresponding figure was shs 217/– and for the whole of Tanzania mainland shs 158/- (C.S.B. 1966, p.27).

In Tanzania the discussions around income disparities have until now mainly centred around the differences between the wages of unskilled labourers and the salaries paid to the small educated elite, both in the private and in the public sector of the economy. This is understandable, since these differences are indeed striking and, moreover, easily demonstrable. The gap between the entry salary of £ 660 per annum or more paid to a University College graduate and the £ 90 or less per annum received by an unskilled labourer is of course considerable. The relatively high salary level of the educated elite may be explained from colonial inheritance (the salary scales of the expatriate civil servants) and perhaps in part also from the scarcity value which the graduates command in Tanzania. Yet, it is obvious that, in comparison with the wages paid to unskilled labourers, these salaries are very high. Such discrepancies, which are much larger than those found in the more developed economies, are clearly also incompatible with the philosophy of African socialism. In this context it is appropriate to mention that in 1966 President Nyerere took the initiative in this matter by reducing his own salary, followed by salary reductions for all senior civil servants.

Naturally pressure is constantly exercised at the lower end of the scale to further increase the minimum wages, as another means to bridge the gap. The Secretary General of N.U.T.A. is also the Minister of Labour. Apart from the obvious advantages which this combination of functions has, such as the marked decline in the number of man days lost by strikes, it must necessarily have strengthened the position of the workers in wage disputes. It cannot be denied, moreover, that the rising wage level has had several positive aspects, both socially and economically (cf. p.76). Yet, the danger is that the existing relationship between the rural peasant incomes and the wages paid in the modern sector of the economy is lost from view. The Sukuma example has shown that a substantial increase of the rural incomes as compared with the urban wage rates, can reduce migration to insignificant proportions of the rural population. But then it is equally clear, that a new disturbance of the balance in favour of the urban wages, could easily reverse the trend. In view of the very limited number of job opportunities this could only lead to a serious problem of unemployment in the urban areas.

4. *Peasant incomes in Mwanza district*. The computation of peasant incomes is a rather hazardous undertaking, with several unknown variables, especially in the subsistence sector. The earnings of the unmarried young men are easiest in this respect, since they as a rule only grow cotton. For our purpose, this is obviously a very relevant category. The average migrant, when he first goes to town is not an already established peasant farmer, with his own family. He is an unmarried youth, living at his father's homestead. If he decides to stay in the village, he will not qualify to set up his own household independently, i.e. to grow his own food crops, until perhaps several years after his marriage. Until then – if he is lucky – he has been able to secure one or two acres of land, suitable for growing cotton. If he has two acres – which is certainly above the average – the proceeds will at best be some shs 400/– per year (cf. computations p.127). Although he enjoys free food and housing, he will be allowed to keep only part of the money for himself as he is expected to contribute towards the school fees for younger children and other family needs.

The calculation of the average income per household presents many more difficulties, the more so as the variations encountered between the individual households may be quite considerable (cf. Collinson, mimeo 1962, 1963, 1964). In Mwanza district the returns from cotton growing, at the present level of crop husbandry techniques, work out at about shs 2/75 per man day (cf. computation p.126). The returns in subsistence farming are somewhat lower on an average, and have been put here at shs 2/50 per man day. The crop calendar (p. 26) shows a total labour input of 363 man days per year. 166 man days are needed for the production of the food crops and 197 man days are used in cotton growing. It follows that the total nett income per annum can be put at about shs 950/–, i.e. if no labour or mechanical traction for cultivation purposes is hired. In addition, however, some income is derived from the sale of decorticated hedge sisal and from the burning of charcoal. A total nett income of shs 1,100/– per annum seems therefore the most reasonable estimation for non-cattle owning households [2]. In the case of cattle owning peasant families the total income can be considerably higher, both from the natural increase of the herds and from the milk, part of which is often sold. Depending on the size of the herds the total nett income can therefore reach shs 2,000/– and more per annum.

The conclusion can be that, as far as the income is concerned, migration is invariably attractive for young Sukuma in the Mwanza district. Whether or not migration – or continued residence in town – is attractive after marriage depends on the situation both in town and in the village. If a job has been secured at a wage above the present legal minimum and the migrant owns no cattle, living in town will generally be advantageous.

It may be argued, that the higher costs of living in town have not been taken into consideration. Thus food and housing will be more expensive in town. But also in town a family will often enjoy considerable extra income from the activities of other members of the households, especially the families in the lower income categories. E.g. in our second Mwanza town survey it was found that a full 35 per cent of all families living in town cultivated fields, either within or outside the township boundaries. This percentage would increase further, if married men living in town without their wives were taken into the account. Furthermore some five per cent of the married women living in town with their husbands were employed – mostly self-employed in petty trade. As far as housing is concerned the town dweller is in a less advantageous position. Housing in town is more expensive. For one room shs 30/– or more per month has to be paid. Yet the differences with the cost of living in the village should not be overestimated. Also the houses in the rural area demand a considerable investment, especially the houses with a corrugated iron roof, cement floor and (sometimes) brick walls.

Even permanent unskilled jobs have become desirable for most Sukuma, as the income derived from it is higher than from peasant farming. Moreover, in a number of cases such jobs can be stepping stones to the much better paid semi-skilled and skilled jobs. Formal technical education, industrial and apprenticeship training at the lower levels are almost non-existent in Tanzania. In 1966 the last government technical school catering for primary school leavers – in Moshi – was converted to take in only form IV (secondary school) leavers. The preponderance of skilled workmen acquire their status through an informal on the job training. Grease- and spanner boys may in due course become full mechanics and lorry drivers may teach their skill to turn boys. The same applies to labourers in the building industry, shoemakers, and button boys who learn tailoring.

Wage employment, when compared with farming has other attractive aspects for most migrants, like the regularity of cash income and the lesser burden of kinship obligations. To quote a st. VIII job seeker from Kwimba district: "Life in town is good when you are employed. Compared with an ordinary farmer at home you are better off, because a farmer gets money only once a year. Even if he gets shs 3,000/– from his crops, if this is to be divided between the people of the family, they will never have more than I get in town".

4. *The policy of Africanization.* Independence in 1961 and the deliberate policy of Africanization accompanying it, opened up new career possibilities that had previously been unheard of. In accordance with the official government policy, africanization has been most marked in the public services. Thus in 1964 nearly three quarters of all African males earning shs 750/- or more per month were employed in the public sector (C.S.B., 1965, p.5). Recently more pressure has been brought to bear on the private sector, in view also of the growing number of secondary school leavers who could not be placed in the various government departments. Strict rules were laid down governing the issuing of entry permits for non-citizens. The "Government policy on Employment of non-citizens in Tanzania" (1966, p.9) stated: "It is government policy that the economy be manned by trained and competent citizens. Entry permits (or renewal thereof) for employment in Tanzania are issued to non-citizens with skills not available at present in the Tanzania labour market only on the understanding that effective training programmes in-service and otherwise, are undertaken within a specified period to produce trained citizens competent to replace them". In particular Asian owned and managed business has been slow to employ Africans in leading positions.

As a result of both the increases in legal minimum wage rates and of Africanization, there has been a rapid increase in the average and median wages, both in the public and in the private sector of the wage economy:

Table V-2: Average and median wage rates of African adult males, in shs per month (Tanzania mainland only)

	1961	1962	1963	1964	1965	1965 *)	1966 *)
Private industry:							
Average wage rates	..	106	143	155	178	211	242
Median wage rates	92	97	127	128	153	..	..
Public services:							
Average wage rates	..	168	216	222	252	273	298
Median wage rates	98	119	156	157	172	..	..
Total:							
Average wage rates	...	124	165	176	202	233	263
Median wage rates	93	99	133	135	158	..	..

Source: C.S.B.: Employment and Earnings, 1965, p.4-5, 1966, p.8, 1967, p.9.

*) Wage rates of all male adult citizens, i.e. including non-African citizens.

The median wage rates, more than the average wage rates represent the unskilled wages, especially in the private sector where the great majority of the unskilled workers is employed. For the same reason the average and median wage rates in the private sector have remained lower than in the public services, although also the lesser degree of Africanization affects the lower figures.

5. *The effects on the labour market.* The sharp increases of the minimum wages had a profound effect on the employment situation. Each significant wage rise sparked off a great number of reduncancy dismissals. Thus the Annual report 1963 for Mwanza region stated: " . . . legislation produced an unfavourable reaction from employers of all races and the outcome was that a fairly large number of employees were discharged or made redundant in urban areas on the grounds that employers could not afford to employ the same number of people (who previously were receiving between shs 80/– to shs 90/– per month) and pay them at the relatively high rate of shs 125/– per month". A comparison between table V-2 and V-3 clearly establishes the connection:

Table V-3: Wage employment 1961 - 1966, total number of employees (Tanzania mainland only)

	1961	1962	1963	1964	1965	1966
Private industry	307,038	289,824	245,153	247,456	226,336	221,955
Public services	104,500	107,204	95,191	103,801	107,419	114,542
Total	411,538	397,028	340,344	351,257	333,755	336,497
Index (1961 = 100)	100.0	96.5	82.7	85.3	81.1	81.8

Source: C.S.B., 1966, p.5; Ibid. 1967, p.7.

As might be expected, especially employment in the private sector, where the great majority of the unskilled labourers are employed, has been affected. But even the government itself was forced to reduce the number of its employees upon the introduction of the minimum wage legislation in 1962. In part the fall of employment is due to the drastic fall in agricultural wage employment, especially in the sisal industry:

Table V-4: Employment by industry 1962 - 1966, total number of employees (Tanzania mainland only)

	1962	1963	1964	1965	1966
Agriculture	203,845	165,532	163,589	139,162	126,223
Mining and quarrying	8,764	7,387	7,826	7,192	6,191
Manufacturing	23,397	22,212	23,583	25,729	29,890
Construction	41,173	28,290	33,740	31,457	37,460
Electricity and water	4,878	3,880	4,637	4,752	5,303
Commerce	16,943	16,477	17,341	17,843	20,935
Transport and communications	24,319	24,409	25,670	26,426	27,560
Services	73,709	72,157	74,871	81,194	82,935

Source: C.S.B., 1964, p.7; ibid. 1965, p.10; ibid. 1967, p.10

The employment figures for Mwanza region and Mwanza town have tended to fluctuate, but despite the booming cotton production there has been no growth of the labour market. It should be noted though, that the labour enumeration is taken on 30th June each year, i.e. before the cotton ginning begins.

Table V-5: Total employment in Mwanza region and in Mwanza town, 1962 - 1966

	1962	1963	1964	1965	1966
Mwanza region	14,896	13,490	14,583	13,586	13,675
Of which:					
Mwanza town	6,858	6,753	6,992	6,355	6,406

Source: C.S.B., 1964, p.3; ibid. 1965, app.IX; ibid. 1966, p.27, app.IX; ibid. 1967, app.XIV and XII

The figures quoted in the preceding tables are certainly on the optimistic side as far as the total fall in wage employment is concerned. The labour enumerations do not cover domestic personnel in private employment (in 1964 estimated at 23,000). Owing to the departure of many expatriates and the minimum wage legislation which induced others to reduce the number of servants, their number has steadily decreased.

A favourable result of the rising wages was that a better work discipline emerged. Job changing, a very common phenomenon in the past also became less easy. Those who were permanently employed preferred to stay rather than to face the alternative of unemployment and returning to the village. In this way, the better work discipline and the higher labour productivity in part made possible the redundancy dismissals. The 1965 report on employment and earnings remarked with regard to the sisal industry: " . . . before 1962 it was necessary to employ and house some 150 to 180 employees in order to achieve a daily turnout of 100 workers. Absenteeism has been gradually reduced to between 5 to 10 per cent . . . . The number of labourers employed per ton of annual production has been reduced from 0.521 in 1961 to 0.375 in 1964 (C.S.B., 1966, p.17). Similar, if perhaps less spectacular, developments have taken place elsewhere in private industry and trade.

6. *Changes in the nature of migration.* As the foregoing remarks already suggest, especially as a consequence of the higher wages paid, the nature of migration changed completely. If only some ten years age much of the labour migration in Tanzania could justifiably be called target migration, today the target worker has almost completely disappeared from the labour market. By and large people now leave their villages in order to make a permanent living in town, if at least they succeed in securing employment. Those few who still plan to stay only temporarily, for the most part quickly change their mind once they have found a permanent job in town. The same is true of the mining industry and, although

perhaps to a lesser extent, of wage agriculture. It is clear, that this development has in turn a profound effect on the labour market, because fewer job openings are available for new migrants.

Life in town especially has become increasingly attractive. Apart from the higher income and such obvious and often quoted advantages and attractions like dancings, cinema going, soccer matches and shops (with a much wider range of articles and cheaper than the village duka) there is the freedom of control by parents and the village community and the lesser burden of kinship obligations. In addition, however, there are other advantages that frequently escape notice. Water is easily obtainable and free of charge from the street taps. Medical treatment is free in the nearby government hospitals. The same is admittedly true of the district hospitals in the rural areas, but for many people the distance to these hospitals is too great. Also in the field of education the towns are usually much better served. Owing to the peculiar age structure of the town population (cf. figure 7), it is generally easier to get a place in standard I. The chances for a st.VIII or st.VII pupil to be selected for further education are also significantly better in the major towns, presumably because of the existence of secondary day schools in the urban areas. In the 1965 general entrance examinations in Mwanza town 25.1 per cent of the candidates were selected for further education, against only 14.8 per cent of the candidates in Mwanza district (rural). In addition, a number of pupils in town who were not selected managed to get a place in Lake secondary school, a day school run by an Asian voluntary agency.

Yet, money is needed and therefore a permanent job is essential to really enjoy town life. But permanent jobs, even at the legal minimum wage of shs 125/– per month are at a premium. Often a relative or friend in a position to help is almost a prerequisite for success in application. Loading lorries and similar casual jobs at daily wages rarely last long. They may yield sufficient money to hold out for some time, but not much more. The same applies to the many small trades, started with a few shillings capital, such as selling coffee, cigarettes or fried groundnuts in the streets, or bananas and tomatoes in the market. Too many people have already engaged in this kind of petty trade to make it profitable. A radio and a bicycle, cinema going, girl friends, new clothes and drinks all require much more money than these odd jobs can possibly yield. Some of these trades, when started with sufficient capital, are remarkably good though. The trade in viz. second hand clothes and especially in snuff tobacco provide for a very decent living. The dealers in snuff tobacco even have their own association; profits of shs 500/– and more per month are normal. But these few paying trades are in the hands of the long established town dwellers. For most newcomers migration to town has come to mean unemployment and forced return to the village.

Naturally the decision, whether or not to go to town is not only based on the wage levels, the more or less favourable job prospects in town and the living conditions there. In each case these factors will be weighted against the conditions in the home area. Employment prospects being so poor, the relatively favourable economic conditions in Sukumaland, as compared with many other rural areas, are of great consequence. Land may be scarce in places, but is often still obtainable. If not, moving to another village or to the Geita district can solve this problem. A young man is entitled to ask for his own field (called a *kilaba*), to cultivate cotton for himself. Usually, also depending on his age, he will be allowed to keep at least part of the proceeds. His membership of the *Kisumba* may at times involve some hard work. But there are also the rewards, the beer drunk when work is done and the big annual feasts which may last for several days. During the dry season the dance societies provide much and greatly appreciated entertainment, as do the marriages that take place during the cultivation season. The young men "are not scorned if they dance during the moonlight nights until the morning and then sleep the greater part of the day . ." (Cory, MS 1957), and full advantage is taken of this privilege. This is not to suggest that village life in Sukumaland is anywhere akin to idyllic. The high mobility of the population within the rural area itself suggests otherwise. There is also the other side of the picture, the strong jealousies, the burden of kinship obligations and the social control of the community which, placing much emphasis on equality, has too often discouraged initiative and new methods in peasant farming. Neither do we wish to imply that every Sukuma youth is completely satisfied with life in the village, although there appears to be little strong resistance against it. When faced with the dilemma to migrate to town or to stay at home, however, the great majority of the Sukuma have so far adopted the second alternative. After all, the village means security, sufficient food, free housing and at least some money. As a st.VIII pupil, when asked for his plans after leaving school, put it: "What can I do. I could cry, sir. If you go to town and are without a work, you just become a thief. It is better for me to stay at home and help my parents to dig".

7. *The situation outside Sukumaland.* It seems appropriate at this stage to emphasize once more that the rural area of Sukumaland cannot be regarded as representative for Tanzania as a whole in this respect, because of the prevailing favourable economic conditions. For many young Chagga and Kara e.g. there is simply no land available in their home areas and the possibilities to settle elsewhere on the land are equally limited. From an interview with a Kara (no school education) I quote some of the relevant points: " . . . My father has only a small plot on the island (i.e. Ukara island in Lake Victoria), just sufficient for his food crops and a small *shamba* of tobacco for sale . . . . I myself have no land at all and no work is available there. So I really had no choice . . . May be I can take over the land of my father

when he dies, but until then I shall have to stay in town for my living". It goes without saying that in this and similar cases the conditions and wage levels in the urban areas do not constitute the main factor, but the acute land shortage on Ukara.

Fortunately, conditions of acute land shortage as occur on Ukara island and in Kilimanjaro region are rather exceptional in Tanzania. Yet, in many areas the peasant incomes are much lower than in Sukumaland, even if land is relatively abundant. In some instances this may be caused by poor communication, as in parts of the southern highlands. Elsewhere poor soil fertility or erosion may be the cause, as at Kondoa Irangi. More often, the unfavourable climatic conditions, especially the undependable rainfall make peasant farming a risky and little rewarding undertaking. It is no pure coincidence, that so many migrants in Mwanza town originate from the central plateau and the southern regions (cf. map 7). It seems only logical that the higher wage level and the better living conditions in town will have the greatest effect on these agriculturally marginal areas. For the people from these areas President Nyerere's words are particularly applicable: "Life in towns has come to represent opportunities for advancement, a chance of exitement, and the provision of social services, none of which is easily available in the rural areas" (Nyerere, 1967b). One example, of a Ndamba from Ulanga district (st.IV education) may suffice to illustrate the situation:
"I had my own *shamba* of cotton and earned about shs 150/– a year in this way. But then there was no rain in my home village and there was much hunger. People dug up wild roots for food . . . . I met someone who told me about my brother at Mikumi . . . . that he was leading a good life and that he was working at a Somali hotel . . . . So I left home and went to Mikumi". Migration in this and in similar cases is of course a gamble in view of the poor employment opportunities, but little is lost by going and there is a big prize – the "good" life – to be gained.

Even when recognizing the desirability of higher minimum wages, it is evident that new wage increases will have serious repercussions both in the rural areas and in the towns, as the balance between the peasant incomes and the wage level in the cash economy is further disturbed. Already the growing flow of migrants into the towns has caused widespread concern in Tanzania. On various occasions the authorities in Mwanza town – and elsewhere – have felt obliged to resort to sending the unemployed and underemployed jobseekers back to their villages. Such measures may perhaps help temporarily, but in the long run even a watertight pass system (if such a system could be devised) can never be a solution. Better than any number of case histories of unemployed migrants and migration statistics such measures demonstrate that the balance has been disturbed already. It means that there exists already a privileged class in Tanzania, the town dwellers. Indeed, as the Arusha declaration (1967, p.13) formulated it: "If we are not careful we might get to the position where the real exploitation in Tanzania is that of the town dwellers exploiting the peasants". It is not, however, in the first place the larger amount of investment and the concentration of services in the urban areas, but the growing income gap between the peasants and the town dwellers – a factor not mentioned in the declaration – which might bring about this situation. No "Back-to-the-land" policy can be successful if these disparities are allowed to grow further.

8. *The problem of unemployment.* The greatest difficulty when discussing the problem of unemployment, is the complete lack of a satisfactory definition of unemployment, which is meaningful in the conditions of a developing country like Tanzania. There is e.g. the rather vague distinction between such concepts as "in the labour force" and "not in the labour force". The labour force survey of Tanzania (Ray, 1966, p.21) tried to solve this dilemma by using, under the heading "not in the labour force" a category "unable to work", which was then defined in a very broad way: "It refers to the mental as well as the physical condition of the individual. Those who were physically fit but do not take any active steps to seek work are classified as unable to work". In practice this leads to undesirable consequences, especially with regard to female job seekers. A by no means exceptional example may illustrate the drawbacks of this classification: "I was only allowed to leave home on condition that I would stay with my MoSi, who lives in Banda street . . . . . I do not go out to look for a job myself, but my FaBrSo, who is employed by the Victoria Federation, is doing this for me . . . . . I have no idea where he is making arrangements for me . . . . . I cannot tolerate to stay here without a job, since life in town is expensive. In case I do not get a job, I shall probably leave at the end of this month . . . ." A classification of "unable to work" seems rather out of place here. Similarly the category "keeping house" (ibid. p.19) was almost certainly interpreted in such a way that it included many job seekers, again mainly females. In fact, the above mentioned girl could also have been classified under this heading, as she helped in her MoSi's household.

The labour force survey of Tanzania in this way arrived at an unemployment rate of 7.0 per cent for the urban areas, with "relatively fewer women among the unemployed than among the employed. Women typically withdraw from the labour force when they cease to be employed and probably take up housework . . . . They do not have spells of unemployment to nearly the same extent as do males" (ibid., p.24).

For our second Mwanza town survey, a rather different method of classification was adopted. In the first place, it is of importance to remember that people who had lived in town for less than a month were not interviewed, unless they had set up their own household or, especially in the case of bachelors, at least shared in the payment of house rent.

Obviously in this way a number of job seekers were omitted. Yet, it was felt that this limitation was necessary in order to avoid the inclusion of a large number of casual "visitors" who usually stay in town for a few weeks or less, living at their relatives' expenses. Their purpose is often twofold, to enjoy town life and to try their luck in the labour market, by visiting a number of employers, like the Victoria Federation, the Mwanza district council and some of the larger private companies like the Mwanza Fishnet Manufacturers. Perhaps they will also go to the labour office. In our opinion, including this category in the survey would have given a false picture of the unemployment problem.

The classification "not in the labour force" was reserved for: a. Children under 15 years of age and adults, if not employed, of 60 years and over. The rationale for this latter age limit is the fact that Africans as a rule withdraw from the labour market at an earlier age than is customary in Europe. b. All respondents still at school. c. All married women who were not employed, but only when they were living in town with their husband. d. All respondents who were clearly physically or mentally unable to perform work. All others, who did not actually work for pay or profit were classed as "unemployed". Applying these rules we obtained an unemployment rate of 7.2 per cent for males and of as much as 48.1 per cent for females.

9. *Unemployment among females in Mwanza town.* If the differences between the labour force survey of Tanzania and our Mwanza town survey are rather small with regard to the male unemployed, the percentages for females differ strikingly. It is not intended here to give a detailed account of the problem of migration and urban unemployment of women. It would require a separate study to describe adequately the reasons for leaving the village and the living conditions of the women in the towns. Yet, in view of the existing disparity between the two surveys, it seems necessary to give some further particulars.

Admittedly not all females classed in our survey as "unemployed" would readily respond to job opportunities. As the following examples may demonstrate, however, in the great majority of cases the lack of suitable opportunities is the prime cause, which explains why these females are not employed. These and the other cases quoted in this study have been drawn from about 400 interviews with migrants in Mwanza town, of whom nearly 100 females.

– Shashi woman, 24 years of age, st.IV education; " . . . . I completed st.IV in 1956. I was still at school when my father found me with a letter from my boy friend and forbade me to continue schooling. I stayed at home for two years and then I ran away with my lover, who was a policeman, stationed at Moshi . . . . We stayed in Moshi for four years and, after his transfer, in Tanga for another two years. At the end of 1964 we separated, because this man claimed that I was sterile . . . . From Tanga I went back to Moshi, where I lodged with a friend until I got a job in February 1965. I was employed as a barmaid at a salary of shs 180/- per month . . . . . until I got pregnant and had a baby in November 1965. It then became impossible to continue working, since I was not allowed in the bar with my child . . . . So I wrote my brother in Mwanza, whether I could stay there. He agreed and came to meet me in Tabora . . . . I have never been home since I ran away. After I arrived in Moshi, I wrote to my father, explaining him where I was and with whom. He wrote back telling me never to come back again since I had publicly insulted him. Afterwards he never answered my letters . . . . Last March, however, I went home together with my brother. My father had cooled down and received us with open arms. After four days we went back to Mwanza. I shall stay here with my brother until the baby is no longer sucking. Then I shall try to look for a job as a barmaid again, or I might even go home to cultivate. At the moment I do not yet know what to do . . . . "

– Irangi woman, 32 years of age, no school education; " . . . . After divorcing my husband, I lived with my parents for some months and then I left home, to work in a bar at Dodoma. I was paid shs 1/50 per day and lived with another husband . . . . I was not satisfied with the salary I received and so in January 1963 I came to Mwanza town. I rented a room and got a job in the Twiga bar, where I worked for more than a year. My earnings were according to the receipts of the customers I served. In February 1964, however, I was dismissed, why I don't know (apparently because of a quarrel with the owner of the bar) . . . . So I continued to stay in my room, which is paid for by a certain man . . . . I do not want to go home until I am very old . . . . "

– Jita girl, 18 years of age, st.VIII education; " . . . . I left school in 1965 and stayed at home for one month. Then I was told by my father to go to Nansio town at Ukerewe to look for a job. He said that he had wasted much money for my school fees and that therefore I had to pay the money back as a thanks giving for the education I got. I stayed there with a relative for two weeks but failed completely to get a job. Then I left for Mwanza town. Here I got a job as a street State lottery seller. Depending on the number of tickets sold I could earn between shs 4/- and shs 6/- per day . . . . but then often I did not even have time for my lunch. After a week I left the job, because the work was too hard for me. Meanwhile I was living with a gentleman. I just could not help it, because otherwise I just had not enough money for food and clothing and everything. Then I got a job as a barmaid in Busega bar, where my salary was shs 135/- per month. I worked there till October 1966. Then there was a quarrel with the gentleman I lived with, after he had refused to give me money for meat. This man then arranged with my boss that I was kicked out. Now I am living with a friend, who is also a barmaid, employed by my former boss of the Busega bar. I shall go home only when my parents call me, or when I feel like marrying legally . . . . "

– Sukuma girl, 20 years of age, st.VIII education; In January I came to Mwanza town for a course in bookkeeping and typing. I stayed there for about four months and then left, due to misunderstandings with my teacher. My father has paid shs 600/– school fees, so I did not dare to tell him . . . . I went to stay with a boy-friend, who is now employed by Barclays Bank. He promised to find me a job, but until now (mid-November) he has not succeeded in finding one . . . . May be I shall leave soon, but not for home, because I am afraid of my father . . . . Town life is much better than life at home in Masanza (the eastern part of Mwanza district) . . . . I should like to stay here if only I could find a job or could get married to someone with a good job . . . . "

– Zanaki girl, living in town with her parents, 18 years of age, st.VIII education; " . . . . Since I left school in 1964 I have just stayed with my parents in town. In the beginning I used to look for jobs, but I failed . . . . (Among others) I went to the Singer company, but also there I was unsuccessful. Then my father told me not to worry about work, but just to stay at home until I married . . . . As I like my father and have a good stepmother, I do not care anymore to find work . . . . "

– Haya girl, 17 years of age, st.VIII education, living in town with her parents; " . . . . Since I left school . . . . I have done nothing but help my mother in the kitchen . . . . My father says that I shall join Mwanza Commercial College, to learn typing and other business things . . . . Until now he has failed to find me a job or a place to go on with my studies. So I think it is better for me to be taught clerical work studies so that I can earn my own living later . . . . I shall try to get a clerical job after my course. If I do not find a job, I shall just stay at home and help my parents until I get married . . . . "

There can be no doubt that the number of jobs available for females with st.VIII education and lower is infinitely smaller than for males. Small wonder therefore that so many girls after coming to town either end up by "keeping house" for a boy-friend or find a job as a barmaid/prostitute and later, after their dismissal, have to rely on prostitution for their living. It is of importance to note, that for girls and women, much more than for males, a strong resistance against the conditions in their home area appears to play an important role in their decision to leave the village. It is apparently, however, not the economic situation – at least not in the first place – which is resented by them. Of much greater importance is the social status of girls and young women in traditional society. As a rule they enjoy considerably less freedom than men and more often than not their say in matters that directly affect their own situation is equally limited. The large number of divorced women who migrate to Mwanza town can hardly be coincidental. In more than half of our interviews with female migrants, this resistance appeared to have been the principal reason why they decided to leave home. Many of these women are ready to admit: "I prefer prostitution to living in the village". One last example may illustrate the position:

– Sukuma woman, 22 years of age, st.IV education; "…. I got married in 1962, but stayed with my husband only for a year. Then one evening we quarrelled, when he came home drunk and he beat me very hard …. The next morning my father heard of it and he ordered us to his house. We went there, and my father said nothing at all. He just gave back the cows, 22 in all, which my husband had paid as a dowry. I was then told to forget my husband and to stay at home …. My father said that his daughter was not just there to be beaten for no cause. In 1963 I got pregnant, but I told my father before it was noticed. According to the Sukuma custom, the neighbouring boy, who was responsible for my pregnancy, had to pay five cows to my father (i.e. if he wished to claim the child as was apparently the case here) …. The child was born in March 1964 …. They brought the cows in July 1964. I tried to convince my father not to take the cows so that I could stay with the child. But my father refused and he took the cows, and so my child was taken away from me …. Two days later I ran away from home. I left at night, when everybody was still asleep, and went to Musoma. I had no trouble there, because I just picked up a man on the road. I did so, because I was angry and because I did not want any difficulties, as I knew nobody there. I also thought that now perhaps my father might give back the child to me …. After two weeks I met a friend in Musoma town and with this girl I went to Ukerewe (where she lived) …. From there we came to Mwanza town, about two months ago …. We now live at the house of my friend's sister, who works as a barmaid …."

10. *Unemployment among males in Mwanza town.* The percentage of male unemployment found in our second Mwanza town survey, 7.2, is too low. Non-response in the survey was 7.7 per cent for males and over half this number was said to have temporarily gone to their home area for – mostly – cultivation purposes. It goes almost without saying that the great majority was not regularly employed, although this category also included a number of self-employed. Depending how this non-response is classified, it seems justified, if they are reckoned to be town dwellers, to estimate the male unemployment rate at nearly ten per cent. Even then this figure does not include many job seekers who had lived in town for less than a month.

Yet, although the number of job seekers in Mwanza town is very large, I believe that the social consequences of migration and unemployment in the urban areas are often overestimated. Also Meier (1965, p.33) expressed the opinion that "in those new countries, where underemployment is massive and unemployment has a very different meaning, an exaggerated concern for unemployment may be detected in public discussion …." He believes that this is based on the British concept of unemployment, which is primarily viewing the problem of urban unemployment as a matter of social justice. To Meier's reasons, I think one must add the concern of many governments of the developing countries for the political consequences of the dissatisfaction of so many town dwellers. Furthermore, the fear of increasing violence and criminality plays a role here.

It is important at this stage to try to sketch the picture of an "average" Sukuma migrant. He goes to town during a slack period in the agricultural year, i.e. directly after planting his cotton, after weeding or, even more often, after selling his cotton crop. If he goes to town after the sale of his cotton, there is no urgent agricultural work to be done in the next two or three months and, moreover, he has now some money to spend and can enjoy his stay in town. Nothing is lost by going if he returns before the new planting season. Besides which he will go where his relatives or friends are, so that his housing and food are at least temporarily secured. Surprisingly often we found that the initiative was on the side of the (employed) relative. A few examples may further complete the picture:

– Sukuma, 18 years of age, st.VIII education, from the Kwimba district; " . . . . My parents are peasants and they also keep a few cattle . . . . I used to help my parents before attending school and later I got my own *shamba* of cotton, to get a little money for my own use. I grew cotton even when I was at school, because the school was nearby . . . . I could cultivate or tend the cows on Saturdays and Sundays and during the holidays . . . . When I failed my st.VIII examination in 1965, I stayed at home for another two months. Then I left for Shinyanga, where I hoped to get a job as a dresser at Korandoto hospital. I was asked to come there by a relative, who was working there as a nurse. There were two vacancies at the hospital. I stayed with this relative for three weeks, waiting for a reply. Many st.VIII leavers had applied and I was not lucky when the results came out. Then I tried to look for some other job in Shinyanga town, but to no avail. I sent an application for police training, but was not selected. So then I left for Mwanza town. This was at the end of April 1966. In Mwanza I was welcomed by a friend, who lives at Mabatini. He works as a clerk at the Co-operative Bus Service Headquarters and gets shs 530/– per month. Here I got free food and lodging. I went everywhere, to many different companies and government offices, but I have not found a job yet. Last July I went home, to help my father pick the cotton and sell it. I stayed at home from July to September and left again for Mwanza town in October. Once more I am staying with my friend, whom I help in cooking the meals, as he is unmarried. Therefore he does not mind my stay . . . . I have to find work in order to help my brothers and sisters who are still at school (i.e. to pay their school fees) and I cannot do so easily if I stay at home. We get just enough money for taxes and to buy clothes. It is not easy to get rich with these unmodernized ways of farming. I shall probably go home for cultivation, but afterwards I shall stay with my friend and work for him in the house until I have found employment. My father has no objections to this . . . ."

– Sukuma, 19 years of age, st.VIII education, from Buswelu (Mwanza district); " . . . . After school I stayed at home, helping my parents to cultivate. As Buswelu is not very far from the town, I often went to look for jobs. I visited the labour office five times and I also went to various offices and government offices, but all was in vain. Therefore I decided to start farming. My father gave me a plot of one acre, on which I planted cotton. The first year I got shs 300/- so I decided to increase the *shamba* to two acres and I employed some people to work with me. So the second year I got shs 650/- (gross returns). After selling the crops I found life in the village too tiresome for me. So in October 1963 I decided to come to Mwanza town temporarily, to live with my brother-in-law and to enjoy town life, until the farming season started. I got a job as a house boy of an Indian at a salary of shs 90/- per month, with food and lodging free. A year later I was promoted to become assistant shopkeeper. By then I got shs 180/- per month. In October 1966 I got a notice to leave the job, as the Indian wanted his son to take my place . . . . Now I have no job. I live at my in-laws, trying to find one. In case I am not successful, I shall go home to farm, as there is plenty of land . . . . "

– Sukuma, 21 years of age, no school education, from Musoma district; " . . . . In 1961 I got my own *shamba* for the first time. I planted cotton and maize and did all the work of cultivating, planting and weeding myself. In the first year I got shs 150/- profit. Then I increased my *shamba* to two acres and got about shs 350/- to shs 400/- per year. The money I used to buy clothes and other things. After the harvest in 1963 I decided that I would go to Musoma town for a short visit to my MoBr, also for a change. I had shs 120/- with me. I took shs 20/- as capital and started a business of selling groundnuts. This I was doing for two years. Then I decided to go to Mwanza town to continue my business, as I was no longer on good terms with my MoBr. I reached Mwanza in December 1965. Fortunately I have a relative here, where I have lived ever since . . . . I carried on with my business of selling groundnuts, but I only earned shs 2/50 and sometimes shs 4/- per day. Then I changed from groundnuts to coffee. To start with it was very good, but slowly life in town brought me to bankruptcy, as I spent almost all my money on cinemas and other luxuries like dancing and prostitutes. I lost so much money that by May 1966 I had to stop my business. Now I make my living by day to day jobs for Indians. Sometimes I carry loads on lorries . . . . Life in town is very bad without money to enjoy it . . . . I may get home now, to get married and to take up farming again . . . . "

– Sukuma, 21 years of age, st.VIII education, from Nyasaka (Mwanza district); " . . . . I had a one acre field in which I planted cotton. Besides, I often took some milk to town for sale,so that I could get some pocket money. In 1964, after selling the crop, I stopped farming, because I was employed at the Jamhuri hotel in town. My salary was shs 115/- per month . . . . I lived at my uncle's house . . . . I held this job until June 1966, when I was told to leave because of the rise in salaries which was made by the N.U.T.A. So I went home again . . . . At present I am in town only for a few days, to look for a job. I do not like agricultural work, because the income is low and only once a year. At home I have a *shamba* of two acres, ready to be planted with cotton and maize for the coming season. So if I get no job, I shall just stick to farming . . . . "

The great majority of the Sukuma job seekers in Mwanza town simply go back home if they do not succeed in securing permanent employment in town. The period of their stay varies greatly, from one day to several months. This is not only dependent on their own liking, but also on the agricultural calendar, the amount of money brought with them and above all on the willingness of their relatives or friends to support them in town. We believe, that it can hardly be said that this type of migration poses a grave social problem in the urban areas. Similar observations can be made regarding migrants of other tribes, provided that there is sufficient land available in their home area and that there are some opportunities to earn money in agriculture.

The main undesirable effect of the increased interest in migration is, as far as the urban areas are concerned, the greater competition for the already too few job opportunities. For it is clear, that the children of town dwellers and migrants who cannot so easily return to the village – whatever the reason is – will find it more difficult, to earn their living in town.

It is not only land shortage in a particular district which may hinder the return of job seekers to their home areas. In a number of cases, also the family relations are an important factor, as the following case histories may illustrate:

– Sukuma, 16 years of age, st.IV education, from Kwimba district; " . . . . My father died in 1964 . . . . so I stayed at home helping my mother to dig . . . . In 1965 I had my own small field and I got shs 180/– from the cotton sold . . . . In that same year, in December, someone came and married my mother. We went to live at the new husband's house, my mother, myself and my sisters. But life became very unpleasant. Early in the morning my new father would force all the children to go to the *shamba* . . . . If we did not go, he abused us and at times we even got no food . . . . So one day I fled . . . . "

– Sambaa, 32 years of age, no school education; " . . . . After the death of my father I stayed at home . . . . until at the beginning of this year, when I quarrelled with my brother. One day my elder brother had taken a lot of beer and he became totally drunk. He then came in and beat my wife, because she was late to give him water and food. I was out at the time, herding the cows. When I came home in the evening and heard what had happened, I went to my brother to ask him . . . . But my brother was so annoyed that he answered me with a blow, and so we fought . . . . until we were separated by the neighbours . . . . I left home with my wife, without telling anyone . . . . My children are at home, except the two who are too young . . . . I want to bring them all to Mwanza, once we have got settled here . . . . I shall never go back to live in a big family, because this only means trouble and enmity

between brothers. We had better live separately . . . . "
– Nyamwezi, 38 years of age, no school education; " . . . . In 1947 when I was about twenty years of age, I had to leave home. The reason was that I had beaten my father's second wife, which resulted in a very bad understanding with my father and other relatives at home. Therefore my mother adviced me to leave. So I secretly prepared my things and left home . . . . "
– Meru, 30 years of age, no school education; " . . . . My parents died when the Masai came to Meru area to steal our cows. I was about six years old then. My father had a lot of cows, which were inherited by my FaBr . . . . When I was fifteen years of age, my lame brother in town told me everything about the thirty cows which my FaBr took, and that we had the right of ownership according to the customs . . . . When my brother and I asked him about the cows, my uncle, who is a great drunkard, got very angry and threatened to beat us . . . . He then chased me away, saying that I was eating his food without doing anything for him. Therefore I went to stay in town with my lame brother . . . . "

It is this type of migrants and those who came to town because of the prevailing land shortage in their home area, who pose the greatest problem, if they do not succeed to secure employment. They are not prepared to (or cannot easily) go back home and not surprisingly these job seekers, much more than the first category, are prepared to take almost any job, if necessary at an illegally low wage. Thus we find quite a few of these boys engaged in selling coffee or cigarettes and fried groundnuts for some small African or Arab entrepreneur, at a wage of sometimes shs 60/– per month. Others go into petty trades which require still less capital, such as selling tomatoes or bananas, often without the required license.

Naturally this is not a new phenomenon. The towns have long been a refuge for those who could not, or for some reason did not want to stay in their villages. Many of these migrants first came to town long before Independence and there is also no reason to believe that their number has greatly increased since 1961. The growth of the flow of migrants, we believe, is chiefly due to the dissatisfaction of the people in the rural areas with their incomes, which they compare with the relatively high wages earned in the urban areas.

12. *Rural development*. What most migrants want in the first place is a well-paid job. All advantages of town life and similar considerations are of secondary importance. To them a job means a regular, reliable and comparatively high income, which in their opinion cannot be attained in the rural area. It is clear therefore that there is only one remedy which can cure the scourge of increasing migration to the urban areas (practically the only places where permanent jobs are available), namely rural development. The Sukuma example

during the 1950s has sufficiently demonstrated that this policy can be successful, also in this respect.

Fortunately there seems to be a new confidence growing in the economic potential of Tanzania's rural areas. The fact that so far the only production targets set in the five years development plan (1964 - 1969) that have been attained, have been in the agricultural sector, has certainly something to do with this new insight. And indeed, the booming cotton production figures of Sukumaland have efficiently nullified the old thesis that the main potential increase in productivity – and therefore the quickest road to economic development of the country – is in the industrial sector, i.e. for Tanzania in a few urban areas. This new emphasis on rural development is not confined to Tanzania. The Kericho conference on Education, Employment and Rural Development (1966) clearly demonstrated that this was the feeling of nearly all economists working in East Africa. It is therefore of the utmost importance, that the same principle is advocated in some recent publications of a political nature, such as the Arusha Declaration (1966).

Unfortunately, however, a general feeling has arisen, and not only among Tanzania's peasants, that farming offers a certain means of subsistence, but no "profit". The idea of profit has become almost solely associated with wage employment. Such statements can also be heard on the official platform. Thus e.g. Mr. Riyami of the Tanzania Information Services recently expressed the same idea (in the Standard of Jan. 24, 1966) when he used the term "three-acre-and-a-hoe-economy", as opposed to "gainful employment". This feeling is of course not new. Already the Phellps-Stokes Commission noted with regret "the depreciation of agriculture in native opinion" (Jones, 1925, p.35).

At the same time, there is no good reason why this should be so. Obviously, "profit" is only a relative notion. As the computations concerning the earnings in cotton growing indicate (cf. p.126), the nett cash returns per man day can, provided proper husbandry methods are applied and the necessary investments in artificial fertilizers and insecticides are made, increase to about shs 5/–. The total nett cash earnings of the peasants, calculated on a year basis could be more than doubled, due to the lesser amount of forced underemployment and a greater productivity of the peasant's labour. Similar and probably even greater gains are possible in food cropping. The favourable prospects, at least in the long run, of animal husbandry in Mwanza district have already been mentioned (cf. p. 29).

Naturally this is no plea for a one-sided development of agriculture at the expense of the non-agricultural sector. But, also in view of the limited possibilities of establishing new industries because of the limited size of the Tanzania market, there appears to be a strong case for paying more attention to the possibilities of agricultural development. Moreover, as the peasant incomes grow, both the purchasing power and the employment opportunities in the rural areas and in the towns will increase accordingly. Better housing of the peasants requires skilled carpenters, the bicycles and radios bought must be repaired. The shops can sell a larger range of articles. Also the agricultural production itself will become increasingly monetized. Fertilizers are needed, the increased use of hired tractors calls for workshops, drivers and mechanics. As will be shown when dealing with the cotton growing methods employed by the peasants, there are many interesting possibilities to increase the productivity of peasant farming, which can be exploited at a comparatively low extra capital input.

Notes and references

1) The Sukuma were generally identified with the Nyamwezi (to whom they are closely related) at the coast before and during the German colonial period.

2) Rotenhan (1966, p.78) calculated an average gross farm income of DM 826 (appr. shs 1,485) for 25 farms he studied in the Kwimba district. About 80 per cent of this amount represented the value of the subsistence- and cash crops produced.

CHAPTER VI

THE INFLUENCE OF PRIMARY EDUCATION ON MIGRATION

The Phellps-Stokes commission expressed the view, that the low esteem for agriculture resulted from the type of school education given. Today the same argument can still be heard. Indeed, for most parents the school was and still is the only way to secure a living outside agriculture for their children, the sole means to escape the "three-acre-and-a-hoe-economy". School fees for primary education are paid primarily in the hope that they will pay dividends in the form of a well paid job for the child, who will then be able to support the parents and his other relatives financially. The prime cause of the low value attached to agriculture cannot therefore be the kind of primary education given, but the feeling of the whole community that through school education a better income can be secured than is possible on the land. It is the same antithesis: peasant farming versus gainful employment. One can only agree with Hunter (1967) that, if anything, education does not cause the problem, but only makes it visible.

Initially the output of upper primary and of secondary education was small. It was quite possible to find clerical employment with st.VIII education or less. Naturally, as the output of the secondary school began to increase, this became more difficult and finally, after Independence, almost impossible. Moreover, after 1961 the total size of the labour market shrank by some 20 per cent, so that "Even the humblest jobs, like office messenger, are now in great demand", as a st.VIII job seeker said. In passing it is noted that this at least partly explains the almost fanatical drive for secondary education in Tanzania.

If the expansion of the secondary school system has been rapid, the number of primary school leavers has grown even faster. This rapidly increasing number of primary school leavers, who cannot enter into secondary schools or other training institutes has understandably caused great concern in Tanzania. The more so, since every new estimation of the number of new jobs that can be created during the present plan period (1964 - 1969) showed a lower total. The latest estimation indicates that at best only some 40,000 new jobs will be available in the non-agricultural sector. There seems to be very little likelihood for an increase of the employment figures in wage agriculture, if the downward trend can be arrested at all (Thomas, in Sunday News of June 19, 1966). Only part of these jobs can be filled by the primary school leavers.

The number of primary school leavers varies widely per region, also in relation to the total population:

Table VI-1: An analysis of the general entrance examinations 1965 per region (Tanzania mainland only) of all st.VIII candidates ')

Region	Total population in '000 (1967)	Number of candidates		Candidates as percent. of total population	Percentage selected for second. education	Total percentage of candidates selected ")
		Boys	Girls			
Arusha	602	1,023	236	0.20	12.7	14.6
Kilimanjaro	651	3,601	1,469	0.78	8.1	8.2
Tanga	769	1,754	647	0.31	14.0	15.3
Coast	781	1,864	778	0.34	20.9	21.4
Morogoro	683	1,089	356	0.21	13.7	13.7
Mwanza	1,058	2,578	610	0.30	13.3	15.8
Mara	536	908	212	0.21	15.8	21.4
West Lake	658	1,960	576	0.38	12.7	15.0
Shinyanga	888	832	130	0.11	16.6	21.2
Tabora	552	675	255	0.17	22.3	24.8
Kigoma	471	400	81	0.10	21.8	24.3
Singida	455	925	266	0.26	12.4	14.9
Dodoma	708	944	292	0.17	16.0	18.4
Iringa	684	892	272	0.17	14.6	16.7
Ruvuma	393	661	239	0.23	26.8	31.6
Mtwara	1,033	928	258	0.11	22.8	28.4
Mbeya	956	1,249	320	0.16	14.9	16.3

') The general entrance examination or G.E.E. is the examination after completing st.VIII or st.VII, which selects the the candidates for admission to secondary schools and other training institutes. In 1965 in Arusha, Kilimanjaro, Tanga, Coast and Morogoro region the eight years primary course was being converted into a seven years course, so that then also the st.VII pupils took part in the examination. In order to make a valid comparison, however, these st.VII candidates have been left out here. This factor may help to explain some of the obvious discrepancies in the selection figures.

") This percentage includes the candidates selected for T.T.C., nursing and other vocational training.

Source: Statistics Ministry of Education, Dar es Salaam (1966).
Population figures: C.S.B.: Preliminary results (1967, p.1).

Kilimanjaro- and West Lake region, the two chief coffee growing areas in Tanzania, have the highest percentage of st.VIII candidates in relation to their total population. In the case of the Kilimanjaro region, with 0.78 per cent easily ranking first, it can be presumed that in addition to the fairly early start of school education in the area, the prevailing land shortage has been an important factor. School education obviously means an important asset for those who cannot live on the land. Furthermore the relatively high peasant income from coffee growing makes it easier to pay the necessary school fees.

The percentage of st.VIII candidates in the Mwanza region is rather low, especially if the favourable economic conditions are taken into the account. The 0.11 per cent for the Shinyanga region – the second region which makes up Sukumaland – is even the lowest in the country after Kigoma. It is to be noted though, that all figures in table VI-1 hide a considerable number of repeaters, estimated at between ten to fifteen per cent.

The enormous growth of the primary school system can be further demonstrated by the following examples. In 1966 there were 3,694 st.VII candidates for the G.E.E. in the Mwanza region, an increase of 15.9 per cent in comparison with the number of st.VIII candidates of the previous year! In fact the difference is even more pronounced. Since in 1966 also the st.VIII candidates, for the last time, took part in the examinations, it is naturally unlikely that there were repeaters among the st.VII candidates, whereas the st.VIII candidates in 1965 had the usual repeaters among their number. In Tanzania as a whole (mainland only), during the current five years plan period an estimated 231,500 children will complete st.VII/VIII (Excerpts annual manpower report, mimeo 1966). Probably the actual figure will be somewhat higher still.

Only about fifteen per cent of these candidates can be selected for further education. In the eyes of the people these happy few have succeeded, where the others have failed, whatever the official terminology of the ministry of education ("not selected") wants the parents to believe. As table VI-I shows, also the percentage of selected candidates varies widely per region. This reflects differences in the provision of secondary schools (day secondary schools in the major urban areas!) and other vocational training institutes in relation to the number of candidates, but clearly also the policy of the government in this respect. The low percentage of selected candidates in the Kilimanjaro region and the high percentage for the Ruvuma region are two examples.

Time and again the "primary school leavers problem" is discussed, during seminars dedicated to it, in parliament and in the newspapers. The 1964 manpower report (Excerpts, mimeo 1966) said about the school leavers: "There is unchallenged evidence that the preponderance of these children emerge from their seven/eight years primary schooling with their aspirations focussed almost solely on wage employment in the non-agricultural sector of the economy. Their resistance to entering subsistence-cum-cash-crop farming has been massive and uncompromising. The result in the past has been long spells of unemployment with concomitant acute discontent, demorilization and often corruption of work habits and moral standards for large numbers of such youths. This past experience will continue in the future, only on an enormously larger scale . . . ." The Standard, of February 20, 1966, reported a private motion in parliament which read: "Because of the increase in those who miss chances of entering secondary schools, this Parliament requests the Government to find suitable ways of eradicating this problem". On January 18, 1966 the Nationalist published a letter which asked: "What will the Government do with this large wastage? .... How useful is this unlucky chap (i.e. a st.VIII pupil who has not been selected for further education) who has exhausted the home economically? Useless. The education he has been receiving has in fact made him worse. Because he has just begun to see what there is in this sea of knowledge .... In their immature way of thinking they think that what they know is enough to get them an office job. Some of them go to the extent of parallelling their education with that of certain politicians who are now in very superior position .... "

In the eyes of the parents, teachers and, one suspects, also of many government officials, the school fees paid for primary school children who are not selected for further (free) education are wasted. Jobs in the modern sector of the economy are simply not available to them and, moreover, many of these children are anyway too young to be able to compete successfully in the labour market. It is supposed, that the primary school leavers, at least the great majority of them, are unwilling to enter farming and drift into the towns, where they create an immense unemployment problem. Secondly, the type of primary education given is blamed for bringing about this situation.

The question is whether this is true, and whether the "unchallenged evidence" cannot be challenged. What kind of evidence is available to build up such a pessimistic picture. One wonders how much generalization about the "problem" is based on letters to the editor in the newspapers and e.g. the difficulties which arose after the 1965 general entrance examinations in the Kilimanjaro region. Letters to the editor are a very dangerous basis for generalization. Usually these letters have been written by educated town residents, who have good jobs themselves. At least in a number of cases it must be presumed that they wrote a protesting letter after their own children had not been selected in the G.E.E. Each year the discussions reach a climax in January-February, i.e. shortly after the examinations. Furthermore, for children of town residents, often without land to cultivate, there obviously exists a serious problem, because of the limited number of job opportunities available. Unfortunately these children are as a rule younger than the rural candidates, because they enter school at an earlier age. The problem of the urban school leavers can be further illustrated from the data obtained in January 1967 of the male urban school leavers (i.e. st.VIII leavers living in town at the time of the G.E.E.) of 1965 in Mwanza town who were not selected at the time for further education. The total figure of 78 candidates on which the following table is based, is about 75 per cent of all candidates, as 25 per cent were selected in 1965. Already this small number indicates that the problem is, quantitatively, not very great:

Table VI-2: St.VIII leavers Mwanza town 1965, resident in town and not selected in 1965 for further education: employment situation and residence in January 1967 *)

Number of 1965-school leavers resident in town, not selected for further education: 78

of which: repeated st.VIII in 1966: 14 (!); attended vocational courses (private schools): typing and bookkeeping: 2, trade school 1.

Situation in January 1967:

In secondary school		15
Lake secondary school (private)	3	
Chopra secondary school (after repeating in 1966)	5	
Dar es Salaam (private secondary school)	3	
Unganda and Kenya (Harambee and private colleges)	3	
Tabora (government day secondary school)	1	
In trade school		1
Left Mwanza town for home village		13
Left Mwanza town with parents		2
Whereabouts unknown		3
Found employment		24
In Dar es Salaam	1	
In Kenya	1	
Wage employment in Mwanza town	19	
Employed by relative, no regular wage	3	
Unemployed in Mwanza town		20

*) Addresses of school leavers from Kaayk's sample of urban primary school leavers.

Without belittling this problem, it is nevertheless evident that the great majority of primary school leavers, even those who attended school in urban areas, live in the villages. They can, if they wish, and maybe because there is nothing else for them to do, take up farming provided sufficient land is available. This is why e.g. the difficulties in the Kilimanjaro region cannot be regarded as representative for the country as a whole, namely because of the prevailing land shortage there. It is noted that even the number of unemployed, registered at the labour offices in the major urban areas means very little. The most it proves, is that such and such a number of school leavers have called on the labour office in search of employment. If, as appears to be the case, the majority of these job seekers leave the town shortly afterwards, there is hardly a problem left of the suggested magnitude.

Is the resistance to farming indeed so great and uncompromising as the manpower report of 1964 stated? It seems indicated first to consider what the attitudes of the school leavers are with respect to further education, wage employment and farming. A job preference test, the text of which is given in appendix IV, was administered to the st.VIII pupils of four schools in Mwanza town and of three schools (Bukumbi, Usagara and Missungwi) in Mwanza district (rural) (cf. also Heijnen, 1967). It will be noted that all jobs mentioned are, at least in theory and sometimes after additional training, available to primary school leavers. The only exception is medical assistant. The job actually available to st.VIII leavers is rural medical aid. The difference is, however, generally ignored and, moreover, does not exist in

Kiswahili: bwana mganga is used in both cases. In the schools chosen here, the test was administered in Kiswahili. Two of the jobs listed, secretary of a primary society and village headman were left out for the urban schools. Otherwise the layout and questions were the same for all schools.

Not surprisingly, to question no. 1 "Do you hope to continue your education in secondary school . . . . " only sixteen pupils out of the 322 boys who completed the test answered no. In at least half these cases, their position in class could have justified little else. Nevertheless, only one of them (and six others) replied to question 2: "I do not think I shall be selected". The other fifteen, together with the great majority preferred the second possibility: "If I am a bit lucky, I might be selected". With few exceptions all pupils hope, even against hope. Hardly anyone is willing to consider the possibility of his failing, until the day the results of the general entrance examinations are known. This we believe is the real tragedy of the G.E.E. The prize to be gained is too big to think of anything else. This is not only true of the children. The parents themselves expect the school to prepare their child not for life in the villages, but for success in the general entrance examination. In their eyes, a good school is the school with the highest percentage of "passes".

It is unrealistic, to say the least, to blame the parents – and the children – for this attitude. Until now, secondary education has meant a free passport to the desired and – in their eyes – easy and profitable job, the good salary and the desk, behind which "you cannot get tired" as a st.VIII pupil said. Primary education alone no longer suffices to reach this goal. If the community in which the teacher lives values success in the G.E.E. above a more practical type of primary education which prepares the children for life in the village, it is of course unreasonable to expect that the teacher can disregard this community opinion, quite apart from his own ideas on the subject. Admittedly, most teachers do occasionally talk about the virtues of village life, the necessity of nation building through farming, and the dangers of unemployment in the urban areas are duly elaborated. Yet it is only logical that remarks like "He is wasting his time" (about a boy who was unlikely to be selected for secondary education) are much more characteristic for the atmosphere in the school. It is mentioned incidentally that here the main problem lies in, when it comes to introducing a rural bias in the primary school curriculum.

Once the results of the general entrance examinations have come out, however, the whole situation changes completely. Those who have not been selected for further education now have to chose, either to try to find employment in town or to go into (at least in Sukumaland more often: to continue with) farming. Let us first consider the place given to farming in the ranking and the order of preference in which the pupils put the various jobs of our test:

Table VI-3: Average score of jobs, rated by 154 st.VIII pupils of Bukumbi-, Usagara- and Missungwi primary school (Mwanza district, rural)

	Total		Bukumbi		Usagara		Missungwa	
	No.	Score	No.	Score	No.	Score	No.	Score
Medical assistant	1	3.48	1	3.51	1	3.40	2	3.48
Garage mechanic	2	3.29	4	3.16	3	3.23	1	3.57
TANU Branch secretary	3	3.20	2	3.19	2	3.27	5	3.17
Primary school teacher	4	3.19	3	3.17	4	3.10	3	3.29
NUTA Branch secretary	5	3.12	5	3.15	5	2.97	4	3.19
Government clerk	6	3.01	6	3.04	7	2.83	7	3.07
Farmer	7	2.81	8	2.65	6	2.87	6	3.10
Secretary primary society	8	2.76	7	2.80	9	2.57	8	2.81
Typist	9	2.57	9	2.52	8	2.63	10	2.62
Policeman	10	2.51	10	2.51	10	2.37	11	2.59
Carpenter	11	2.43	11	2.41	12	2.23	9	2.62
Driver	12	2.27	12	2.29	13	2.20	12	2.26
Tax collector	13	2.03	14	2.05	17	1.67	13	2.24
Petrol pump boy	14	2.01	16	1.87	11	2.37	15	2.02
Bricklayer	15	1.93	15	1.94	16	1.73	14	2.07
Shopkeeper	16	1.86	17	1.85	14	1.93	17	1.83
Tailor	17	1.82	18	1.83	18	1.63	16	1.95
Office messenger	18	1.82	13	2.10	20	1.10	18	1.79
Tractor driver	19	1.68	19	1.70	15	1.73	21	1.62
Shop assistant	20	1.55	21	1.40	19	1.60	19	1.79
Village headman	21	1.49	20	1.56	21	1.03	20	1.67
Unskilled labourer	22	0.94	22	1.12	23	0.53	22	0.86
Hotel servant	23	0.88	23	0.89	22	0.90	23	0.83
House servant	24	0.22	24	0.30	24	0.03	24	0.17

Computation of average scores:
Number of respondents in category "Like it very much" times 4, "Like it" times 3, "Do not mind" times 2, "Do not like it" times 1, "Do not like it at all" times 0. Total score divided by the number of respondents.

Table VI-4: Average score of jobs, rated by 168 st.VIII pupils of Kirumba-, Bwiru-, Nyakabungo- and Moslem primary school (Mwanza town)

	Total		Kirumba		Bwiru		Nyakabungo		Moslem	
	No.	Score	No.	Score	No.	Score	No.	Score	No.	Score
Medical assistant	1	3.61	2	3.48	1	3.77	2	3.68	2	3.31
Garage mechanic	2	3.61	1	3.63	2	3.55	1	3.68	1	3.59
TANU Branch secretary	3	3.25	3	3.22	3	3.37	3	3.20	3	3.14
Government clerk	4	3.10	4	2.96	4	3.29	5	3.02	6	2.76
NUTA Branch secretary	5	3.08	6	2.74	6	3.18	4	3.13	4	3.10
Primary school teacher	6	2.82	9	2.33	5	3.23	7	2.63	5	2.86
Farmer	7	2.79	7	2.74	7	2.93	6	2.79	7	2.55
Driver	8	2.51	5	2.89	11	2.58	8	2.34	8	2.34
Typist	9	2.46	8	2.59	10	2.68	9	2.27	9	2.31
Carpenter	10	2.24	14	1.96	9	2.70	10	2.13	14	1.86
Policeman	11	2.08	15	1.96	8	2.73	17	1.64	16	1.79
Tax collector	12	2.05	17	1.78	12	2.34	11	1.96	12	1.93
Shopkeeper	13	2.05	10	2.22	16	2.25	14	1.80	11	1.97
Petrol pump boy	14	2.04	16	1.93	15	2.29	13	1.84	10	2.07
Tractor driver	15	2.01	13	2.07	13	2.30	17	1.77	15	1.86
Shop assistant	16	2.00	12	2.19	18	2.11	12	1.86	13	1.90
Bricklayer	17	1.90	18	1.70	14	2.29	16	1.75	18	1.69
Tailor	18	1.89	11	2.22	17	2.11	18	1.57	17	1.76
Office messenger	19	1.43	19	1.15	19	1.75	19	1.27	19	1.41
Hotel servant	20	0.95	20	0.81	20	1.19	20	0.86	20	0.86
Unskilled labourer	21	0.46	21	0.44	21	0.66	21	0.32	21	0.34
House boy	22	0.13	22	0.13	22	0.14	22	0.18	22	0.03

Computation of average scores: cf. table VI-3.

The outstanding result is of course the high ranking of farmer, which was rated no. 7, both in the rural area and in town. We cannot but think that this indicates that the much publicized dislike of farming is less serious than we are often invited to believe. Obviously the preference for farming has also been influenced by the consideration that wage employment is not available. Also for the primary school leavers farming naturally means a sure, if little remunerative means of subsistence, with free food and housing, and at least some money income. The st.VIII pupils generally have a very good sense of reality in this respect. They know that paid jobs are not available to them and that the real choice is between farming and unemployment, once they have "failed" in the general entrance examination.

It is of interest to compare the rating of farmer with the pupils' background at home in this respect:

Table VI-5: Evaluation of farmer, by pupils in st.VIII and the occupation of their father ')

	Like it very much	Like it	Do not mind	Do not like it	Do not like it at all	Average score ")
A. *Rural area:*						
Father farmer	54	59	12	16	13	2.80
Father in other occupation	7	9	2	1	2	2.86
B. *Mwanza town:*						
Father farmer	36	46	12	3	5	3.03
Father in other occupation	10	29	13	6	8	2.41

') In case the father had died or was alive but no longer economically active, his last occupation had to be mentioned.
") For computation of average score cf. table VI-3.

It follows that the sons of farmers at school in Mwanza town rated farmer higher than the same category in the rural area. Could it be that they, even more than the boys at school in the villages, know of the poor employment opportunities in the modern sector of the economy? Kaayk, in the course of his psychological research among st.VIII pupils and -leavers, at one time interviewed a st.VIII pupil at Usagara primary school, who previously had been schooling at Bwiru. Part of this interview, we believe, is illustrative for our argument: ". . . . Yes, I will do farming first of all, to get enough money . . . . When I cannot continue my lessons, where shall I go? I have to work and dig. All Basukuma cultivate. There is no other possibility and besides, I like it because if I dig a *shamba* I get some money and food, so there is profit in it . . . . No I don't mind the hard work and I do not agree with 'farming would be my last choice, it is just good for uneducated people', because also the educated are digging and I agree with that . . . . (About life in the village). There is no hard life there, you get everything for nothing, I mean food. In town you have to buy food and you have no shamba to dig . . . . (About going to town) I don't want to go to town because you have a hard life there. You have to pay for a house and if you have work, your salary cannot finish all that . . . . all people in town without work are robbers . . . . I know because I was schooling at Bwiru and lived in town for two years. So if I cannot continue my lessons, I don't go to town, I go home . . . . "

There is perhaps little enthousiasm for farming, but the great majority of the children is certainly not unwilling to farm. In this context it is interesting to observe that boys of the town schools, whose parents were not engaged in farming, rated farming much lower than the other children. Quite a few of them are second or third generation town dwellers, who have no easy access to the land.

As a further check, a number of boys of Bukumbi upper primary school (where the score for farming was lowest in the rural area) were interviewed. More than half of the boys said that they saw no point in going to town to look for a job. If they would "fail", they intended to stay at home. Others of course said that they would try to find employment "just anywhere", but most of them added that if they did not succeed, they would go back home.

On the basis of this test and interviews with st.VIII pupils, we conclude that only a small minority intends to find a job at all costs, even if this means a long spell of unemployment. The great majority, knowing how poor the employment chances are, will probably take a chance, but is also ready to take up farming if they are unsuccessful in town. From the interviews with st.VIII migrants in town it became clear, that often the parents and other relatives, much more than the school leaver himself, pushed the idea of going to town. The following quotation (from an interview with a st.VIII leaver from Kwimba district) may serve to illustrate this point: "There is plenty of land at home for me to cultivate and I should like very much doing cultivation. But my father and other relatives expect me to be something else than themselves . . . . In fact my father asked me to go and look for a job, in order to help him financially . . . . "

Moreover, many school leavers and especially the st.VII boys who will be the primary school leavers from now on, are too young to get any job at all. A further factor is, that they leave school in the middle of the busiest time of the agricultural year, when both food crops and cotton must be planted. Most school children, besides helping their parents, have their own small cotton field and so they easily slip into the peasant's routine.

Another interesting point in table VI-2 and VI-3 is the high ranking of garage mechanic. It came out no. 1 in four schools, well in front of the traditional "white-collar" jobs. At least this effectively denies the opinion held by so many commentators that these semi-educated people refuse to work with their hands. At least in Sukumaland, the primary school leavers are apparently not so much after a white-collar job, as making their bid for "the kind of job with the most appealing net advantages of which money income and its regularity are the principal ingredients" as Callaway (1961) remarked about the school leavers in Nigeria. It is

Table VI-6: Job preference test, best jobs and reasons stated for this preference

Job	Times mentioned		Reasons stated	Times mentioned	
	Rural	Town		Rural	Town
Medical assistant	38	53	Nation building, to cure the people etc.	37	51
			To cure my friends and relatives	2	5
			Good salary/profit	3	–
			To know many things	1	–
			Easy job	1	–
			Respected by the people	1	–
			To cure myself	–	1
Garage mechanic	24	55	Good wages/profit	16	25
			Nation building	2	17
			To increase knowledge	7	13
			To open own garage	6	4
			Makes me strong	1	5
			Work for life	–	5
			Repair my own car	–	4
			Drive my own car	–	2
			Easy to learn	–	2
			To help my relatives	2	–
Primary school teacher	32	17	Nation building, to educate the people etc.	31	15
			To increase knowledge	2	2
			Much profit	–	2
Farmer	13	16	Enough food	10	8
			Money (easy, enough)	8	5
			Nation building, to teach people in the village	3	8
			Most important in the world	–	2
			You are independent	1	–
Government clerk	4	9	Nation building	3	4
			Easy and clean job	2	3
			Good salary	1	3
			Respected by the people	–	2
			To pay school fees for my brother	–	1
TANU Branch secretary	3	7	Nation building	2	6
			Important to me	1	1
			Interest in politics	–	1
Carpenter	3	7	Good money	4	2
			A work for life	2	–
			Easy, no regular work	1	1
			Nation building	1	–
			To make things	1	–
Policeman	10	1	Peace in the country	9	1
			A work for life	1	–
Petrol pump boy	2	2	A good salary	2	1
			Easy job	–	1
			Nation building	–	1
Tractor driver	2	2	Good money	1	1
			Nation building	–	2
			Help myself to cultivate	1	–
			Help my relatives	1	–
Shopkeeper	1	2	To increase knowledge of bookkeeping	–	2
			Much money	1	–
			Easy job	1	–
Tailor	3	–	Much money	1	–
			Nation building	1	–
			Independent work	1	–
Typist	3	–	Easy job	1	–
			To increase knowledge	1	–
			Can be employed anywhere	1	–
NUTA Branch secretary	–	2	To help other workers	–	2
Secretary primary society	2	–	Nation building	1	–
			Good for me	1	–
Village headman	1	–	Easy job	1	–
Office messenger	1	–	Easy job, just sitting	1	–
Driver	1	–	Learn how to drive	1	–

significant that the most frequent reason given for this preference was the financial gain supposed to go with this job, and not the nation building motive so frequently mentioned for other (white-collar) jobs (cf. table VI-6).

Many variations of the nation building motive were encountered: to teach the generation of tomorrow, to cure the people of our enemy *'Ugonjwa"*, to help the illiterate people in the village, to follow baba Nyerere etc. The explanation is obviously the propaganda around this theme – in- and outside the schools – since nothing in the test or the explanation given in the classroom hinted in this direction. It is difficult to evaluate the motivating power of this statement. Looking at table VI-6 it soon becomes clear that this "key" fits viz. medical assistant much better than garage mechanic, which to some extent appears logical as poor health is one of the three "enemies". The motive crops up much less frequently, however, among the reasons stated for what was considered the worst job by the pupils. And if it does, only as the negative counterpart of the same reason stated by the pupil for the best job. We are therefore inclined to believe that nation building and similar stereotype statements indicating collective interest, probably with the exception of help for relatives, may perhaps provide a valuable argument for the test and during interviews, but are only to a very limited extent the real motivation for the actual preference for a job (table VI-7).

So far mainly the opinions of st.VIII leavers in Sukumaland have been considered. Their attitude towards farming turned out to be much less uncompromising and negative than might have been thought. Although they naturally would prefer a well paid job, their sense of realism is sufficient to recognize that the alternative to peasant farming is unemployment and consequently the great majority decides "to dig their *shamba*". In the circumstances this attitude is probably the best that could be hoped for.

The decision to stay at home is not of course the result of a positive opinion about the economic prospects in farming. The postboxes of the various government departments and of the chief private firms testify to quite a different mentality among the rural school leavers. We do not know of one st.VIII leaver who would refuse a permanent job because he preferred farming. They are fully aware of the greater rewards in the wage economy, even if naturally they do not calculate the expected income in terms of nett cash returns per man day. Besides, in the eyes of the village community, farming for a school leaver has still something of an open admission of failure, although as more st.VIII leavers do the same, this feeling tends to disappear. Furthermore, as we already referred to earlier, many parents, who had hoped for liberal returns on their investment in school fees, in one way or another promote the job seeking activities of their child. Even when engaged in farming, the school leaver has numerous opportunities to try his luck in the labour market, when there is little or no work to be done in the cotton fields. Some of them go to town, especially when they have a relative there, others confine themselves to the rural area. Out of 55 st.VIII leavers living in

Table VI-7: Job preference test, worst jobs and reasons stated

Job	Times mentioned		Reasons stated	Times mentioned	
	Rural	Town		Rural	Town
House boy	118	138	Hard, slave labour	81	74
			No profit, money	32	49
			No nation building	7	31
			Dirty clothes/work	7	4
			No improving of knowledge	–	7
			Do not like work in kitchen, washing clothes	–	6
			No work for life	1	3
			For women only	–	3
Unskilled labourer	4	16	Hard work	2	5
			Little profit/money	–	6
			Temporary, daily wages	–	6
			Only for illiterates	–	3
			No nation building	1	1
			No improving of knowledge	1	–
Shopkeeper	4	2	Can lose money	4	1
			Thieves can come	2	–
			Too tied to shop	1	–
			Makes me poor	–	1
Tax collector	2	4	You can lose money and be in prison	2	4
Driver	6	–	Dangerous, accidents	6	–
Hotel servant	6	1	No profit	3	1
			Too much work	3	–
			Dirty clothes/work	2	–
			No nation building	–	1
Carpenter	2	1	Hard work	1	–
			Dangerous	1	–
			I am not strong enough	1	–
Policeman	1	2	Travel, no comfort	1	–
			I am not patient enough	–	1
			Arrest even your father	–	1
Primary school teacher	1	1	Difficult job	1	–
			Beat children	1	–
			I cannot explain things	–	1
Farmer	2	–	I want a paid job	1	–
			Not good for me	1	–
Tailor	2	–	No profit	1	–
			Just for lazy people	1	–
Petrol pump boy	2	–	Dirty clothes	1	–
			Too much work	1	–
Tractor driver	–	2	Hot sun, little pay	–	1
			People will be jealous	–	1
Village headman	1	–	People are difficult	1	–
Bricklayer	1	–	No nation building	1	–
Typist	–	1	Just for girls	–	1

Bukumbi, only 14 had never tried to find employment, either in the rural area or in town. The following table summarizes the jobseeking activities of the school leavers in Bukumbi in comparison with other young men. It should be taken into the account, however, that owing to the location of Bukumbi at only fifteen miles from Mwanza town and the existing regular bus services, table VI-8 cannot be regarded to represent the migration situation of an "average" Sukuma area.

Table VI-8: Bukumbi subdivision, jobseeking activities of a number of st.VIII leavers and other young men of a different educational background ’)

	St.VIII 16-25 y. of age	No school education 15-17 y. of age	No school education 16-25 y. of age	St.IV education 15-17 y. of age	St.IV education 16-25 y. of age
Total number interviewed	55	36	59	24	40
Never tried to find work	14	30	48	16	26
Tried unsuccessfully:					
In rural area ”)	15	2	1	–	4
In Mwanza town	23	–	–	1	–
Found employment:					
In rural area	10	4	10	7	9
In Mwanza town	2	–	–	–	1

’) Migration data st.VIII leavers and addresses of others were obtained from Kaayk’s rural sample.
”) If one respondent tried to find employment both in town and in the rural area, he has been entered in both categories.

The table clearly shows that the main difference between the various categories – taking the age factor into consideration – is with regard to the jobseeking activities in Mwanza town. The st.VIII leavers, much more than the other young men of the same age have gone to town in search of employment. The cause is, however, certainly not to be found in the fact that the young men with st.IV or no school education would be less interested in a job. This was demonstrated when we tried to administer a series of “general adaptability tests” to them. When it was rumoured that those who did well in the test would be given a permanent job, a fight almost arose at times for a place in the bus which was to take them for the test. The main reason why fewer young men with a school education below st.VIII go to Mwanza town is, that they believe they stand a much smaller chance to find permanent employment than the st.VIII leavers. The chief employers, like the government and the *V.F.C.U.* in practice prefer st.VIII leavers even for such jobs like sweeper and office messenger. The same is true of firms who want to employ semi-skilled personnel like machine operators, bus conductors, drivers etc. It is therefore generally said, that the only possibility for someone with st.IV education or under is unskilled labour on daily wages for some small Indian employer, like loading lorries in Mwanza south port. At least for most Sukuma this is a very unattractive proposition, as it implies regular spells of unemployment. Similar jobs, of longer duration, are available in Bukumbi subdivision itself at the Ng’walugwabagole ginnery! In passing it is noted, that the same factor causes the statistics of the labour office in Mwanza town to be unreliable. Unless jobseekers with little or no school education have some previous experience, e.g. as a house boy, they often do not take the trouble to try their luck at the labour office (and the various government departments) as they consider their chances of success nil.

Furthermore, it should be stressed that table VI-8 includes several st.VIII job seekers who went to town only for one day, perhaps on several occasions, to try their luck by calling on the chief private firms and government offices. Those who stayed in town for a longer period invariably had some relative living in town. The examples given earlier of the "average" job seeker in town are undoubtedly also characteristic of the st.VIII Sukuma migrant; it is more than sheer coincidence that three out of the four case histories quoted as examples related to st.VIII jobs seekers. With few exceptions one may indeed say that they simply try their luck in the labour market and most of them do not even try very hard! If there are, at any given moment, many primary school leavers looking for employment in Mwanza town – especially after the cotton harvest – it must be stressed that by the next month the great majority will already have gone home. When talking with these migrants one gets the impression that many of them have come to town as much to pass time in a pleasant way as to find employment also because they do not really expect to be successful. Only very few demonstrate something of the much feared and publicized uncompromising attitude that "farming is not according to my education, I only want a job".

The conclusion must be that, if a school leavers problem exists in Sukumaland, the problem is much more to be found in the productive and active participation of the school leavers in peasant agriculture, than in the massive unemployment problem which they create in the town. Lastly, I wish to emphasize that there is no reason to believe that there will be such a problem in the near future. As more school leavers enter farming, one may reasonably expect that the village community – and the st.VIII/VII leavers themselves – will further adapt their expectations in the sense that farming will increasingly become a normal occupation for a primary school leaver, as it is at present for those who left school with st.IV education only.

CHAPTER VII

PRODUCTIVITY IN PEASANT FARMING, COTTON GROWING METHODS

1. *The development of cotton as a cash crop.* As Speke's casual observations about the landscape and flora along his route to Lake Victoria prove (1864, e.g. p.287), the cotton plant (as a perennial) was already known to the Sukuma before the colonial era. Cotton was first introduced as an annual cash crop by the German administration, with great energy and thorougness. Seeds were distributed free of charge and premiums were paid to the peasants according to the acreage planted. Even a simple textbook was published in Kiswahili (Ruthenberg, 1964, p.45), a feat unrivalled during the years of the Sukumaland development scheme or after Independence. Although the output of cotton continued to rise slowly, the period between the two world wars brought less progress or new initiatives for African peasant farming in Tanzania. In accordance with the provisions of the British mandate, stress was much more on an orderly administration and on the (passive) safeguarding of African interests. The agricultural development was seriously hampered by the chronic lack of funds and personnel.

It was not until after 1947, when the Sukumaland development scheme was initiated, that the cotton production figures began to rise at a rapid rate. Especially in the Mwanza district cotton growing was systematically encouraged by the field staff of the agricultural extension service, concentrated here for this purpose. At one time in the Bukumbi subdivision and adjacent areas alone there were more than a hundred agricultural instructors, supervised by an European field officer. Training and educational background (st.VI and under) of these instructors was perhaps insufficient, but this policy met with considerable success. Of crucial importance, and a great help to the extension service, was the rapid increase of the cotton prices following the Korea boom. Whereas in 1950 the cotton price was only 34 cts/lb, by 1954 as much as 62 cts/lb was paid to the grower. Despite subsequent lower prices, since then almost every year the previous record was shattered by a new bumper crop:

Table VII-1: Cotton production in the Lake area and prices paid to producers

Year:	Production in '000 bales ')	Producer price in cts/lb ")	Year:	Production in '000 bales ')	Producer price in cts/lb ")
1950	38	34	1959	183	52
1951	41	50	1960	163	54
1952	71	50	1961	161	54
1953 +)	38	50	1962	196	55
1954	91	62	1963	232	51
1955	109	62	1964	260	50
1956	121	57	1965	337	47
1957	151	54	1966	420 ++)	46
1958	151	54			

Source: Production figures: De Wilde Et Al. (1967, p.427); producer prices: Ruthenberg (1964, p.55); data 1965 and 1966: Lint and Seed Marketing Board.

') Lint cotton. ") Seed cotton. +) Dry year. ++) Provisional figure.

Although the 1965- and especially the 1966 figure reflect rather favourable weather conditions, the increase in production has indeed been impressive. As such Sukumaland provides a fine example of the potentials of agricultural development in a rather short period. It should be stressed that until now the greater part of this increase has been brought about by extension of the acreage, especially in Sukumaland's periphery. Even in Mwanza district, however, the acreage planted with cotton has been greatly extended, as a comparison between the 1.01 acre found by Rounce in 1945 and the 2.73 acres mentioned by Collinson for 1961 in Bukumbi indicates. The increase has resulted far less from intensification, although in areas where land is scarce – like Bukumbi – closer spacing and earlier planting no doubt have contributed to some extent. Earlier planting became possible after the changes that took place in the subsistence sector, in particular the smaller acreage of the food crops. Yet, without further extension of the cotton acreage, the yields could easily be doubled or even tripled through the application of improved cotton husbandry techniques. This has amply been demonstrated at Ukiriguru and on many scattered plots belonging to local peasant farmers.

2. *Reasons for selecting cotton growing techniques as a measure of productivity in peasant farming.* For several compelling reasons it was decided to limit the scope of our investigations into the relationship between educational attainment and productivity in peasant farming to the cotton growing techniques employed by the peasants.

Firstly, most food crops are grown as intercrops. Although most households do grow maize interplanted with legumes, the many individual variations of the mixture grown –

depending on the peasant's liking and the soil type of the field – make a valid comparison rather problematic. Furthermore, unless crop husbandry techniques of the semi-educated farmers are in general significantly better than of the illiterate peasants (quod non), one can reasonably expect that the existing differences will be most marked in cash crop farming, which is less influenced by tradition. The focus of change in Sukuma farming has been in cotton growing. The rapid monetization of the cotton production e.g. as occurs today has so far left the production of food crops practically untouched. The balance between mixed- and pure cropping has remained almost unaltered in the subsistence sector, despite the preferences of the extension service for pure cropping. Admittedly, the food acreage has somewhat decreased and changes in the cropping pattern have taken place, but the "new" food crops invariably fitted in with the traditional practice of mixed cropping. It is considered quite normal for a peasant to hire labour to cultivate his cotton field. But the food shamba is still invariably cultivated by means of family labour or mutual aid groups (especially of neighbouring women).

In part the reason for this dissimilarity is no doubt due to the heavy emphasis on cash cropping which in the past was – understandably – characteristic for agricultural research and the practice of extension work in the villages. If most peasants have only very vague ideas about the recommended growing techniques for cotton, they know next to nothing about modern crop husbandry practices in the subsistence sector. Moreover, for cotton clear recommendations exist regarding planting time, optimal spacing, weeding and thinning, fertilizing etc. These recommendations provided us with a number of objective criteria in comparing the growing practices of the individual peasants. Admittedly, similar recommendations have now been made available for some of the main food crops. But without exception they are relevant for pure crops only and therefore unsuitable for our purpose, since most food crops are still grown as intercrops.

The composition of the sample was of even greater consequence. For obvious reasons, it was necessary to include as many st.VIII leavers as possible in our sample. St.VIII education is a comparatively recent phenomenon in this part of Mwanza district. The few st.VIII leavers who left school before Independence have almost invariably found a job in town or e.g. as a clerk in government service in the rural area. The great majority of the st.VIII leavers living in the villages have left school since 1961 and are as yet unmarried. Like in most other African societies, an unmarried Sukuma youth does not as a rule grow subsistence crops himself. But very often he will have his own small cotton field, even when still at school. Therefore, we either had to leave out nearly all st.VIII leavers, or take only cotton growing into the account.

Finally the choice was narrowed further by the fact that we had only one assistant at our disposal to help us carry out the interviewing. A rather large sample was required, to make the data collected sufficiently reliable, because the total sample had to be split up into different categories of varying educational standard etc. Interviewing peasants in their fields is a rather slow-speed operation. No more than one visit could possibly be accomplished during the season and no observations concerning the time of weeding or the method of picking were possible. We therefore decided to concentrate on some easily measurable and controllable facts and knowledge of the respondents.

3. *Recommendations of the Western Research Centre Ukiriguru for cotton grown on the catena soils of North and Central Sukumaland.* The level of crop husbandry techniques employed in cotton farming is a very important measure of productivity. This holds especially true for the Mwanza district where land is scarce and intensification usually constitutes the only way left to increase the output. In this hand cultivation area, moreover, the capacity of the family to deal with cultivation to a great extent determines the acreage planted. Even if more land is available, a further extension of the cotton acreage is therefore often difficult to accomplish by means of family labour.

The following list of recommendations has been combined from several sources. Until now no comprehensive outlines have been published. Most relevant data was obtained from Collinson (MS June 1965) and from Progress Report no. 1 of 1966 of the W.R.C. Ukiriguru.

– Ridging; The traditional five foot ridge (cf. figure 2) is recommended for the hill sands and the soils of the lower colluvial zone. The ridges should be on the contour and tied at six feet intervals to prevent soil erosion and loss of water.

– Time of planting; This is one of the most important and basic points. Unless the cotton is planted in time, no appreciable increase in yield can be expected. In theory, the sooner the cotton is planted after the start of the rains, the better. But in practice cotton which has been planted too early may open during the late rains and will consequently be downgraded. The compromise date is therefore early December. The cotton bolls should then begin to open as the rains stop.

– Spacing; Correct spacing is only second in importance to timely planting. On the hill sands and the lower colluvial soils two rows should be planted per ridge and the optimum spacing between the plants is 18". On the *Mbuga* soils, the plants – if cultivated on the flat – should be in rows three feet apart, with again 18" between the plants in the row.

– Number of seeds; To allow penetration of the crust which quickly forms on the topsoils, six seeds per hole should be used.

– Thinning; Depending on weather conditions, within about four weeks after planting the plants are ready for thinning to two plants per stand.

– Weeding; The first weeding can advantageously be done at the same time as the thinning operation. Again depending on the rainfall, up to five weeks after planting is satisfactory.

– Fertilizing; a. 100 lbs of single superphosphate per acre (for the 1965-'66 season the recommendation was 200 lbs), which must be broadcast in the seedbed after *sesa* and just before ridging.

b. 112 lbs of sulphate of ammonia per acre, to be applied after the the first weeding i.e. about six weeks after planting, and preferably shortly after rain.

c. Farmyard manure is strongly recommended in lieu of artificial fertilizers. It has an appreciable residual effect (cf. Peat & Prentice, 1949), which artificials have not. The main difficulty is the large quantity required, namely about five tons per acre. It should also be applied on the seedbed, before ridging. Peat and Brown (1962) in addition advise a small dressing of 50 lbs sulphate of ammonia at the commencement of flowering, which advise, however, apparently has been lost in extension practice.

– Spraying; As it now stands, spraying should begin as soon as the cotton begins flowering. Five or six sprayings at fortnightly intervals are required. The insecticide used is D.D.T. or a D.D.T./toxaphene mixture if both spiny bollworms and American bollworms are the major pests in the area. Until now, in Mwanza district spraying has only been done (by aeroplanes) on the block cultivation schemes. The mechanics of distribution to the individual peasants have not yet been finalized. For hand spraying by the peasants, in several areas the amount of clean water required may constitute a great problem. This recommendation, moreover, has been issued by the W.R.C. Ukiriguru on the understanding that its use will be restricted to well grown cotton, the implication being that the use of insecticides is economically justified only if the complementary improved practices are also employed by the peasants (cf. Working paper on the proposed application for credit for the use of insecticides, Mimeo 1966). In practice this reservation means, that an early implementation of this recommendation is undesirable, in view of the present low level of cotton growing techniques among the Sukuma peasants.

– Grading; It is recommended to grade in the field as the cotton is being picked, using two bags as a pouch, one for grade A- and one for grade C-cotton. At present the peasants practically without exception use only one bag and all grading is done at home. For this reason, this part of the recommendations has not been included in our investigations, as the results would be nil. Moreover, the question is whether this recommendation is at all practical. It may save some time, but consequently much more time is spent in the fields, i.e. in the hot sun, whereas the grading at home can be done at leisure in the shade. Therefore the regional agricultural officer (personal communication) suggested that the bag for grade A cotton should only be used for clean grade A cotton and all other cotton, including the slightly contaminated grade A, should be put into the other bag for later cleaning and grading at home. Unfortunately, however, this is not propagated by the field staff.

4. *The sample.* In all 305 people (262 males and 43 females) were interviewed. They can conveniently be grouped into five categories or subsamples:

S 1: 41 males living in various parts of Bukumbi subdivision. The peasants in this category were selected on the basis of age and education from the respondents of our general Bukumbi survey, which was conducted from May to July 1965. Since this survey included too few st.VIII leavers who were actively engaged in farming, others, living in a number of *shibanda* not included in our general survey, were obtained from Kaayk's sample of st.VIII leavers in Bukumbi.

S 2: 43 males who attended a week's course at the agricultural training institute in Nyegezi or a weekly class organized by the department of agriculture in co-operation with the Institute of Adult Education in Mwanza town. These classes were held at Kisesa, a village on the main road Mwanza town - Musoma (-Kenya), at about 15 miles east of Mwanza town. The only subject at the Nyegezi course and part of the subject matter treated at Kisesa was modern cotton husbandry practices. It should be noted that most data obtained from these peasants reflect their cotton growing practices prior to attending the course or classes, which were held after the planting season was finished. Obviously this is not the case regarding the participants' knowledge of the recommendation, since the interviews were carried out afterwards. Most peasants who attended the course at Nyegezi came from around Kisesa, Bunegezi- and Bukumbi subdivisions and from the villages around Missungwi (located to the south of Bukumbi subdivision).

S 3: All males (73) and females (16) living at Nyamikoma, Kigoma and Suke, three *nsengo* of Kigoma *kibanda*. The kibanda is located about a mile south of the road Usagara - Kikongo ferry in Bukumbi subdivision (cf. map 4) and was, like the two following *shibanda*, part of our general survey.

S 4: All 55 males and 20 females from Ng'wasonge kibanda who cultivated a cotton field there. The kibanda is located north of the same road, behind Ng'wasonge primary society and faces Mwanza gulf (map 4). Apparently land in this kibanda is scarcer than in Kigoma, but several people supplement their income by fishing. Part of the fish caught is bartered for maize and other food crops.

S 5: All 50 males and 7 females cultivating cotton and living in Nyamagembe *kibanda*. The *kibanda* is located behind Isamilo primary society, on Mwanza gulf (map 4).

All respondents were interviewed on their shamba, to enable us to make the intended estimation of the acreage cultivated, the measurement of the spacing used etc. In the 1965-'66 season, the interviewing began end-February and was not terminated until the beginning of August. In February - March 1967 the respondents in Kigoma, Ng'wasonge and Nyamagembe were interviewed again, to obtain additional data about soils, and possible improvements in the crop husbandry techniques employed. In the mean time 21 farmers from Kigoma had attended a week's course at M.A.T.I. Nyegezi and in Ng'wasonge pamphlets, prepared by students of the Nyegezi Social Training Centre, had been distributed.

5. *Cultivation.* As has already been mentioned (cf. p. 27) a close link exists between the timing of the operations in subsistence farming and in cotton growing. Work in the cotton fields will not as a rule start until a least part of the early food crops have been planted. When comparing the rainfall figures (p. 17) and the labour inputs shown in the crop calendar (p. 26) it soon becomes apparent that work in the fields begins rather late. There is some evidence in the available literature which suggests that in former days cultivation may have begun somewhat earlier. Cory (MS 1957) stated: "October is the month in which the peasant works hardest in his fields to prepare them for planting". In his description of the Sukuma country year (undated MS) it is reported with regard to November: "Cultivation . . . . should be in full swing now". This is certainly not the case in Bukumbi today, unless the rains are particularly early. If it is true that cultivation starts later now, the explanation for this change could be threefold. In the first place, traditional authority, backed up by the religious concepts of the Sukuma, has ceased to function as a regulating force in agriculture. In former days the various operations in agriculture would be marked and accompanied by a series of rites performed by the chief and his headmen. Thus the beginning of the planting season would be marked by a ceremony called "The blessing of the seeds", after the questionning of the oracle by the chief about the prospects of the coming harvest and the appropriate time of planting for the various crops (Cory, MS 1957). These rites have disappeared with the chief and every peasant now begins cultivation of his own accord. Secondly, the changes in the cropping pattern which have taken place, have had a far-reaching effect on the distribution of the labour inputs over the year. One need only look at the crop calendar to realize the impact of the extension of the cotton acreage on the labour demand at different times of the year. Before the introduction of cotton, work in the fields would have been completed by the end of July. Today a considerable part of the cotton picking, grading and marketing as well as the burning of the stalks still remain to be done at that time. It may well be therefore that the chief feasts and ceremonies in the villages – such as the yearly feast organized by the *Basumba* – are now, more than in the past, concentrated at the end of the dry season, when in former days the preparations for the coming planting season used to begin. At any rate, even a superficial acquaintance with Sukumaland forces the idea upon the observer, that there is never so much beer available in the villages and in the local beer shops as when cultivation ought to start. The fact that beer is now bought and no longer brewed at home certainly has had an impact. Most money for

this purpose only becomes available in August until October, from the sale of the cotton crop.

Although family labour remains the most common method to prepare the cotton fields for planting, there are several possibilities for a peasant who wishes to supplement his family labour, either to raise its productivity or to substitute it:

– *Kisumba society;* Each village has its own association, formed by the young men (*Basumba*) and the unmarried girls (*Banhya*) who have left school. As a rule the *Kisumba* is organized at the *nzengo* level, although sometimes the societies in two *nzengo* which form one *kibanda* may have joined forces, as is the case in Nyamikoma and Kigoma (Kigoma *kibanda*). In many villages, not everywhere, the *Kisumba* can be called in by anyone (also by non-Sukuma) willing to pay their price, to cultivate his fields. In other villages the *Kisumba* has ceased to cultivate. Thus in the 1965-'66 season the *Basumba* of Kigoma and Nyamikoma *nzengo*, where this society is very strong, cultivated 23 times - also outside their own *nzengo* - for which they charged shs 1,474/– (Varkevisser, Mimeo 1966). The amount of the fee is not only dependent upon the size of the field, but also at least partly upon the social status of their temporary employer. Usually only part of the fees is paid directly and the rest after the cotton has been sold. The advantage of this arrangement is that the less well-to-do peasants can make use of their services. On the other hand, it is likely that the work of the *Kisumba* in many instances substitutes family labour: It appears that, especially in *nzengo* where this society is strong, the hiring of the *Basumba* also enhances the social status of their temporary employer.

– *Other hired working groups;* These groups may range from an *ilika* of some ten school boys, trying to earn part of their school fees in this way to the Ipelelo association, a group within the Bukumbi credit union (cf. chapter VIII). Also the local dance societies deserve mentioning here, in case they work for non-members. In those *nzengo* where the *Kisumba* society has ceased to cultivate, the dance societies have often taken over this role. As in the case of the *Kisumba*, most *ilika* in this category are willing to receive the greater part of their fee after the sale of the cotton crop.

– *Mutual aid groups;* The "true" version of this type of association is a number of friends or neighbouring women who in turn help one another in cultivation. The Sukuma highly appreciates to work in parties of this kind and consequently many of these groups exist. Among women it is a very common arrangement to get the food crops planted. Among men this type of association is less frequently encountered and then only to deal with the preparation of the cotton fields. Traditionally cotton is a men's crop. Moreover, among men it is customary to provide in addition to food, some money to drink beer after the day's work has been completed. The result of this arrangement is higher productivity, even if the quality of the work, especially towards the end of the day, sometimes leaves much to be desired. But undoubtedly e.g. a party of seven men do much more in one day than one man accomplishes in seven days if he works alone. It should be noted, that in the case of the men's groups, the difference with the foregoing category is often only small. Many of these groups – among these the local dance societies – can also be hired by non-members for the customary fee, whereas the work for members is free or (sometimes) at a considerably reduced price. The original set up of the credit union described in chapter VIII provides a good example of this type of arrangement.

– *Hired labourers;* During the cultivation season and also later when the cotton is being picked, many young men of other tribes such as the Ha, Rwanda and more often the Nyamwezi, go around in the villages of Sukumaland to hire themselves out as labourers. At this time of the year there is little or no agricultural work to be done in their home villages, and this temporary migration therefore adds to their money income. Usually an arrangement is made for a certain field and not per working day. Food and a previously agreed upon amount of money (at the rate of shs 40/– to shs 50/– per acre for *sesa* and ridging) have to be provided. These labourers have a very good reputation for the quality of the work performed. Moreover, they are considered to be cheaper than hired *ilika.* The fee may be about the same, but the costs of the food differ sometimes considerably. Whereas the labourers get the food normally eaten by the household, the *ilika* members expect something extra like fish or meat and beer. There is, however, one disadvantage for the peasant who wishes to supplement his family labour in this way. This is the reason why comparatively few farmers can afford the services of hired labourers. Obviously these men have to be paid the full amount upon completion of the work, whereas the working groups (and also the tractor) can be hired at least partly on credit.

– *Bakwilima;* Fathers who have marriageable daughters prefer the marriage to take place during the cultivation season. According to the custom the bridegroom is accompanied by a number of friends (*bakwilima*) who still stay with him for about a week at the homestead of the bride's father. Apart from taking part in the usual festivities, these young men are supposed to work for the bride's father during their stay and of course the heavy cultivation work provides the latter with a welcome opportunity to make the presence of the bridegroom's friends productive, by way of compensation for the high costs of the marriage festivities.

– *Buyobe;* Another means to prepare the fields for planting is to call in the help of the neighbours. Good food and beer have to be provided, but otherwise no payment is required. In Bukumbi, and elsewhere in Sukumaland, "Kuyoba" has lost a great deal of its former significance. In 1952 Wright was still able to report (in respect of Kwimba district, but the situation was much the same in Bukumbi): "The labour of the neighbours is the normal method of getting the majority of the crops planted . . . . Buyobe cultivation parties were met with practically every day . . . . It must be stressed that this arrangement is immensely more important than any of the other joint cultivation methods" (Mimeo 1952). Since then, however, the cultivation of cotton became an increasingly commercial affair and hired labour of *ilika* or individual labourers gradually took the place of the work of the neighbours. As the households' acreage under cotton increased, the food production became more and more the responsibility of the women (although the men help). Gradually therefore, in the subsistence production *buyobe* was replaced by mutual aid groups of neighbouring women.

– *Tractor;* A comparatively new addition to the list of cultivation arrangements is the tractor. There are about 200 privately owned tractors in Sukumaland, but none in Bukumbi subdivision. Most tractors are found in the peripheral districts, where the individual holdings are larger and the relief less pronounced so that cultivation on the flat can be practiced without detrimental effect on the soil. De Wilde Et Al.(1967, p.430) stated that out of the 186 individually owned tractors in Sukumaland 99 were in Maswa district. In Bukumbi subdivision the only available tractors are owned by the *V.F.C.U.* They are hired out at a rate of shs 45/– (shs 50/– if on credit) per acre, irrespective of the time of the year. This charge has been too low, since the break even price can be calculated at shs 60/– owing to the low proportion of effective working hours (Collinson, mimeo 1965 b). Moreover, it is important to note that a price of shs 45/– has only been feasible, since many peasants are prepared to hire the tractor after the optimal time of cotton planting (the first half of December) has long since elapsed. Tractors can be seen ridging cotton fields as late as February. Its use seems therefore questionable from an economic point of view in this hand cultivation area.

Unfortunately we have no data regarding the exact costs of the various cultivation arrangements. The *ilika* vary in size and so does their charge. Furthermore the costs of the food given to the workers have to be taken into the account. At any rate, it can safely be assumed, that the tractor is not much cheaper than hired labour (at the rate of shs 45/– per acre) and the costs have a high import content. This drawback will become even more apparent when the level of crop husbandry practices improves and the demand for mechanical cultivation in January and February drops, so that the fixed costs per acre increase. As a means of cultivation the tractor is not popular in Bukumbi. It is alleged that the drivers (who receive a premium according to the acreage ridged and ploughed) do their work carelessly, often plough less than an acre and do not appear on the appointed day.

In our sample the relative share of family labour and the various other cultivation arrangements was as follows:

Table VII-2: Farmers sample, acreages under cotton and kind of labour used in cultivaton

	S 1		S 2		S 3		S 4		S 5		Total	
	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Family labour	57	50	44	36	154	60	124	75	120	74	499	61
Kisumba	17	15	3	3	57	22	25	15	–	–	102	12
Other hired groups	16	14	14	12	2	1	2	1	2	1	36	4
Mutual aid groups	11	10	7	6	5	2	7	4	20	12	50	6
Hired labourers	5	4	1	1	27	11	6	4	14	9	53	7
Bakwilima	–	–	–	–	7	3	–	–	–	–	7	1
Buyobe	2	2	–	–	–	–	1	1	–	–	3	0
Tractor	5	4	53	43	6	2	1	1	6	4	71	9
Total	113	99	122	101	258	101	166	101	162	100	821	100
Average acreage per respondent	2.8		2.8		2.9		2.2		2.8		2.7	

The figures in table VII-2 demonstrate some important differences between the five subsamples. Thus the lowest percentage of family labour, which coincides with an unusually high figure for cultivation by tractor, is found in S 2. The reason for this deviation from the normal pattern is that S 2 includes a number of peasants with land on the mechanized block cultivation scheme at Kisesa. In passing it is noted that the average acreage under cotton is not larger in S 2 than in the other subsamples (with the exception of S 4). As will be further elaborated in chapter VIII, the block cultivation schemes were intended to make possible the further extension of the cotton acreage under cultivation by the individual peasants, by means of mechanized cultivation.

The *Kisumba* society in Nyamikoma and Kigoma *nzengo* (which form part of S 3) is very strong. Clearly this has resulted in a larger share of the cultivation done by the Basumba than in the other two *shibanda* of our sample. Also the percentagecultivated by hired labourers is high, which is indicative for the relative prosperity of the peasants here. The rather low percentage of family labour suggests that the frequent cultivation by the *Basumba* (up to twice a week) in the *kibanda* itself and elsewhere has reached the point where it unnecessarily substitutes family labour in the *kibanda* itself. A number of households now feel obliged to hire labour, as the son is so often away because of his obligations in the *Kisumba*. Social pressure makes it likely that the *Kisumba* will be asked to cultivate, and so the system tends to perpetuate itself. Nyamagembe (S 5)shows an example of the opposite development. Here the *Kisumba* society has disintegrated and they have ceased to cultivate. At least part of their activities has been taken over by the local dance societies, which when they work for a member do not demand a fee. In terms of cultivation costs this has certainly been a change for the better.

The highest percentage of family labour is found in Ng'wasonge (S 4). This corresponds with the smallest cotton acreage per respondent, which indicates that normaly and at least up to a certain point, labour is hired to supplement and not merely to substitute family labour. This gets even more relief, if it is taken into the account that this subample contains six respondents who in addition to their agricultural activities were engaged in fishing.

Also the educational standard of the peasants in our various subsamples is of considerable interest:

Table VII-3: Farmers sample, educational standard of respondents

	S 1		S 2		S 3		S 4		S 5		Total	
	M	F	M	F	M	F	M	F	M	F	M	F
No school education	15	–	5	–	41	13	36	17	28	4	125	34
< st.IV	–	–	3	–	4	–	3	1	3	–	13	1
St.IV	12	–	15	–	20	1	13	2	14	2	74	5
St.V – VII	3	–	8	–	7	2	1	–	4	1	23	3
St.VIII	11	–	9	–	1	–	2	–	1	–	24	–
Over st.VIII	–	–	3	–	–	–	–	–	–	–	3	–

Firstly, it is of interest to observe that – leaving aside S 1 which was selected on the basis of educational standard – the educational level is highest in S 2, i.e. the respondents who attended a course in Nyegezi or the classes at Kisesa. This indicates that the interest in modern cotton growing practices is found mainly among peasants with at least some school education. The same conclusion was arrived at when we invited the peasants of Kigoma *kibanda*, to attend a course at Nyegezi after the completion of these investigations.

Furthermore, a comparison between e.g. S 1 and S 5 suggests that there exists a negative correlation between the educational standard of the respondents and the percentage of family labour employed in cultivation. In order to check this assumption all 20 st.VIII leavers in our sample who had no plot on the Kisesa block cultivation scheme were compared with the same number of st.IV and uneducated respondents, of exactly the same age groups.

Table VII-4: Farmers sample, acreage cultivated and labour used in cultivation by 20 respondents with resp. st.VIII, st.IV and no school education, of the same age

	No school education	St.IV	St.VIII
Family labour	37	25½	15
Mutual aid groups	3½	5½	6½
Hired labour/tractor	5	19½	25
Total acreage	45½	50½	46½
Average acreage per respondent	2.3	2.5	2.3

The average acreage cultivated by the respondents in table VII-4 is below the 2.7 average figure obtained for the total sample. But most respondents included in table VII-4 were under 25 years of age and unmarried. Even though they do not grow food crops, this means that they cannot themselves cope with more than two acres without assistance. Two acres of cotton require approximately 40 man days for *sesa*, ridging and planting.

It is clear that the st.VIII respondents, much more than the other two categories, make use of hired labour or mechanical traction in cultivation. In part the explanation is to be found in the fact that they, more often than the others, have a paid job and therefore cannot possibly cope with all cultivation themselves. But there were also three st.VIII leavers who, although they performed no paid work left all cultivation work to hired labour. A recurrent complaint – which is apparently supported by the data gathered here – is that the educated peasants become increasingly inclined to leave the heavy work to others, either to paid labour or to the unpaid assistance of the members of the family. And indeed, one gets the impression that in the mind of many st.VIII leavers modern growing methods and the hoe – at least the hoe in their own hands – are perhaps not incompatible, but to say the least the two are a very unfortunate combination. To many of them the hoe is the symbol of traditional subsistence farming. It is of course possible now – and many commentators do so – to blame the school and school education in general for turning out lazy peasant farmers. Yet, we believe that this is a dangerous oversimplification. Ridging with a hoe in the hot sun is a very unpleasant job and it is certainly the most exhausting job in Sukuma peasant farming. The costs of hiring labour during the cultivation season amount to about shs 3/- per day, sometimes even less. The only conclusion can be, that many st.VIII leavers are not prepared to do this hard work for this small amount of money (well below the legal minimum wages in Mwanza town) and prefer a somewhat lower income and more leisure instead. *Sesa*, weeding, picking and grading are as a rule done by the peasant himself, perhaps with the help of other members of the family. In the case of an unmarried grower (as most st.VIII leavers are) this is also true. In return for the help given to them, the school leavers are expected to help in the fields of the family.

Quite a different matter is that a number of young primary school leavers, although they live in the village, do not have their own cotton field as the figures collected by Kaayk in this respect prove (cf. his forthcoming study). It is a well established custom among the Sukuma for an unmarried young man to ask land from his father to cultivate his own cotton. Such a plot – and the "private" plots of the other members of the family – is called *kilaba*. If the father does not have sufficient land, the son can ask a more fortunate relative or some other villager. If need be, he can even go to the Geita district and obtain a piece of land there, perhaps as a first step to a later permanent settlement there. Practically all Sukuma in Bukumbi subdivision have relatives in the Geita district. With very few exceptions therefore it can be concluded that in case a school leaver does not cultivate his own ***kilaba***, this is lack of interest on his part and not so much lack of opportunity. In many cases, however, these are young boys, who still hope to find paid employment in town or in the rural area itself. In view of the low returns in peasant agriculture is in hardly surprising that there exists little enthousiasm for farming, or that many other school leavers have only half-heartedly engaged in cotton growing. The recent growth of school education makes it impossible to compare married peasants of varying educational standard who have their own holding. Only this comparison could provide a definite test.

6. *Crop rotation and fallow.* Cotton being a monoculture, the necessity for rotation and the application of artificial fertilizers or farmyard manure carry much more weight than in the case of food crops grown as intercrops. Collinson (mimeo 1965) e.g. stated that "unfertilized cotton should be removed at least every fourth year". In case sufficient quantities of farmyard manure or artificials are applied there appears to be no need for regular rotation.

Since so little farmyard manure or artifical fertilizers are used by the peasants, some kind of crop rotation or fallow is the most common remedy which is, however, by no means universally practiced in Bukumbi. In view of the traditional preference to grow specific combinations of crops on certain soils (cf. p.13) no well established rotation cycle exists and it is impossible to give here all the individual variations encountered. Consequently only the most important changes from an angle of restoration of soil fertility have been recorded in table VII-5.

Table VII-5: Farmers sample, number of farmers using fallow and crop rotation in their cotton fields during the past three years

	S 1	S 2	S 3	S 4	S 5	Total	
	Abs.	Abs.	Abs.	Abs.	Abs.	Abs.	%
Fallow	8	4	23	37	22	94	31
Fallow + cassava	–	5	8	–	–	13	4
Cassava	23	28	37	16	2	106	35
Maize (mixture)	1	2	10	11	4	28	9
Millet (mixture)	5	–	4	1	1	11	4
Sweet potatoes	–	1	–	–	–	1	0
No rotation	4	3	7	7	27	48	16
No data ')	–	–	–	3	1	4	1

') Fields were cultivated by present occupant only for part pf the whole period, previous crops unknown by him.

Both "tumble down" fallow and cassava have a highly beneficial effect. Peat and Brown (1962), on the basis of a series of field experiments concluded: "A 'tumbledown' rest period of three seasons is, generally speaking, as effective as reasonable dressings of cattle manure or phosphorus . . . . Cassava, allowed to go weedy after the first season, seems to act as a partial 'tumbledown' fallow, and gave good responses in the first season of testing; but responses were more erratic in the next two seasons". Cassava is normally left in the field for at least two years. It is often preceded by a maize mixture (interplanted with legumes and also cassava). After the maize and the legumes have been harvested more cassava is planted. In these cases the last cassava is often harvested in the third year only. As a rule one weeding, shortly after planting is done.

Very little is known about the effect of rotation of cotton and food crops, grown in a mixture. Agricultural research has been concentrated on the cultivation methods and yields of pure crops (cf. Collinson, mimeo 1965). Yet, pure crops at present cover only a small percentage of the total cultivated area of the farm. Generally, moreover, these pure crops are grown on special plots such as old termite hills, the site of abandoned homesteads and cattle bomas, with a better than average fertility. On fields near the homestead on which e.g. pure maize is grown, often some manuring is done. One reason for a peasant to move his millet and maize, grown as intercrops or pure, is the occurrence of *striga*, which enormously reduces the yields. It is only logical, however, that rotation of cotton with mixed food crops is far superior to no rotation at all.

Although the peasants are well aware of the need to rotate cotton, table VII-5 shows that this practice is still far from universal. In S 1 - S 4 the exceptions are mainly unmarried respondents who have their own *kilaba* on which they grow cotton, but nothing else. In Nyamagembe, however, nearly half the peasants had grown cotton in the same fields for at least four consecutive years. Only one of the 27 farmers concerned used artifical fertilizers to offset the drop in fertility. It should be stressed that absolute land shortage cannot be the cause for this lack of rotation or fallow. In some cases the land had been hired, but 15 out of the 27 farmers had unused land at their disposal and all but four young people also cultivated food crops. It must be presumed therefore, that the chief cause for lack of rotation is the traditional concept of the suitability of a certain soil type for specific combinations of crops only and the pseudo rotation practiced, by using mixed cropping. Significant in this context is the fact that, with few exceptions, all cases of "no rotation" were on *Kikungu I* and *Ikurusi*, which soils, apart from having a better than average fertility, are considered best suited for cotton growing. No effect of education could be ascertained, as the number of cases was too small to allow a conclusion to be drawn.

7. *Ridging*. The main problem in respect of ridging is that the ridges are often poorly aligned on the contour which, especially when they are not tied, may result in run-off of water and the loss of humus and fine particles. Only 27 peasants in our sample had their ridges tied and then only in places, e.g. at the end of a ridge, near a gully or in some steep corner of the *shamba* near the hill top. On the whole one gets the impression that remarkably little serious damage occurs.

A second reason why tie-ridging is advocated is the significant increase in yields, especially in dry years. According to Peat and Brown (1962) the extra labour needed for this purpose is not unduly great. They quote the experience at Ukiriguru, where four man days were required to make the ties on an acre, as against 21 man days for *sesa* and ridging. Yet, it must be taken into the account that this extra labour is required during the cultivation season, when family labour is already fully occupied or at least to the extent the family is willing or able to work in the fields. One good reason for a peasant not to use this technique therefore is that he might either have to employ hired labour or cultivate a smaller acreage which would largely offset the gain in yield on the tie-ridged fields. Collinson (personal communication) for this reason observed that from a soil conservation angle it would be sufficient to tie-ridge only in places where the alignment of the ridges is likely to precipitate a vast flow of water and at a wider interval than the now advocated six feet.

Myren (1964, p.8) dealing with the introduction of new growing techniques and investment in peasant agriculture remarked: "The subsistence farmer looks for sure bets . . . . In fact, the probability of obtaining a 100% gain in nine years out of ten, through the introduction of a new practice, may still not be convincing to a farmer who has no reserves to fall back on . . . . He must be principally concerned with whether there will be a failure this year . . . ." In wet years tie-ridging does not result in a higher yield, in extreme cases the yields may be even lower (Peat & Brown, 1960). In view of the foregoing remarks about the amount of work involved, one cannot be surprised to learn that there exists little enthousiasm for tie-ridging among the Sukuma peasants. The fact that this practice was enforced during the years of the Sukumaland development scheme (1948-'58) made it even less popular.

In our sample there was a tendency for the educated peasants to pay greater attention to this point, in the sense that all respondents who had their ridges tied in places had at least a few years of school education. But the size of the field and the nearness of the gullies were mentioned by them as the reason why they had some of their ridges tied rather than that they expected to obtain a higher yield in this way. In passing it is noted that a few of the older st.VIII leavers had learnt this technique at school (in the 1950s when agriculture was a subject of the middle school curriculum).

8. *Time of planting.* The time of planting is, together with correct spacing, the most important recommendation and also the point which got most emphasis in agricultural extension. A delay in cotton planting causes considerable reduction in yields. Thus an experiment at Ukiriguru (season 1952-'53) showed a decline in yield from 2,062 lbs (planting early December), via 1,690 lbs (early January) to as little as 425 lbs of seed cotton per acre (planted early March). Similar results were obtained in other years, also on a number of observation plots cultivated by individual peasants in the surrounding district (Peat & Brown,

1960).

Undoubtedly much has already been achieved. Nevertheless only a small minority of the peasants actually manage to finish cotton planting before December 15:

Table VII-6: Farmers sample, last date of cotton planting

Last date of planting:	S 1		S 2		S 3		S 4		S 5		Total		
	M	F	M	F	M	F	M	F	M	F	M	F	%
November	1	–	12	–	4	–	1	1	–	–	18	1	6.2
1st half December	6	–	9	–	9	2	1	–	3	–	28	2	9.8
2nd half December	19	–	15	–	21	4	11	4	6	2	72	10	26.9
1st half January	8	–	5	–	18	4	20	2	18	2	69	8	25.2
2nd half January	4	–	1	–	16	4	9	5	9	2	39	11	16.4
February	3	–	–	–	5	1	10	5	12	1	30	7	12.1
March	–	–	1	–	–	1	3	3	2	–	6	4	3.3

S 2 shows by far the best performance. However, 11 farmers in this subsample had only land on the block cultivation scheme which was ridged by tractor, who must therefore be substracted. Furthermore it should be taken into consideration that the early rains of the 1965-'66 season were fairly good, which has probably resulted in a somewhat earlier planting than is customary under more average conditions. An interesting phenomenon is that, on the whole, females plant later than males. This effect would have been even more marked, if only the married women were taken into the account. The reason is obvious, much more than males they take care of the food crops, which in the beginning of the planting season leaves them little time to work on their own (small) *kilaba* of cotton.

Under the better educated peasants there appears to be a slight tendency to plant earlier. The main cause is, that the negative extremes (planting in March and the second half of February) are largely uneducated. Yet, whereas so many of the educated farmers made use of hired labour, it must be admitted that their performance is far from good. Had they hired the labourers or the *ilika* at the appropriate time i.e. in November and the first half of December, the differences would have been much more marked. Furthermore, it should be noted that table VII-7 is biased as all three respondents with over st.VIII education and eight out of the 24 st.VIII leavers only had land on the Kisesa block cultivation scheme, where planting was completed before December 15.

Table VII-7: Farmers sample, educational standard of respondents and last date of cotton planting

	Nov.	1.half Dec.	2.half Dec.	1.half Jan.	2.half Jan.	Febr.	March
No school education	8	15	30	40	35	22	9
< st.IV	1	1	3	6	2	1	–
St.IV	2	3	35	19	10	10	–
St.V - VII	3	3	7	8	1	3	1 ')
St.VIII	3	7	7	4	2	1	–
Over st.VIII	2	1	–	–	–	–	–

') Prolonged illness in December and January.

9. *Spacing.* Firstly, it should be observed that the recommendation with regard to the optimum spacing is generally not known by the peasants. What most of them know, however, is that they should plant closer together. In our sample, leaving S 2 out of consideration – because the peasants in this subsample had just completed a course on the subject – only 24 respondents actually knew the exact recommendation. In itself this means very little. Even if a peasant knows that the recommended spacing is 18", he must have a good idea of how much 18" is, and with very few exceptions this was not the case. In the circumstances a more practical measure, like from elbow to fingertips, admittedly a broad yardstick, might be more useful in daily extension practice.

On average, spacing, which was measured five times at random in the field, was between 24" and 25". Although this is still far from ideal, it certainly represents a major improvement compared with the situation in this respect only some five years ago, when 3 ft and more was normal practice. It should be noted, however, that starting from about 24" a new factor begins operating, which tends to impede further rapid progress in this field. There exists a widespread notion among the peasants that if the cotton is planted too close together, so that the fully grown plants touch one another, the yields will be lower. And indeed, if no fertilizer is applied, especially in dry years the number of cotton bolls per plant may be somewhat smaller when the spacing is 18". Obviously this does not mean that the yield from the total plant population is also smaller. But many peasants can hardly believe that a spacing of 18" results in many more plants per acre than the average 24" spacing which they practice. At least it was obvious that they had never thought of this.

In practice, moreover, planting is often done by the whole family. The peasant himself may know the recommended spacing and even be willing to comply, it is quite a different matter for him to convince his wife or to supervise other relatives (like his mother!). During our investigations, on several occasions we saw such cotton fields, where the spacing in the various parts differed noticeably.

Concerning the spacing there was a tendency for the educated farmers to do better than the uneducated peasants. In this respect the differences were more marked than with regard to the time of planting. In the following table S 2 is shown separately, because this subsample is biased in the sense that it contains the more progressive farmers, many of whom also have a plot on the Kisesa block cultivation scheme, where supervision is closer and advice obviously more readily available than in the village.

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Table VII-8: Farmers sample, educational standard of respondents and average spacing recorded in their cotton fields

		18-20"		21-23"		24-26"		27-29"		30" +	
		M	F	M	F	M	F	M	F	M	F
No school education	S 2	2	–	1	–	2	–	–	–	–	–
	Others	8	3	38	5	53	15	19	6	2	5
< st.IV	S 2	3	–	–	–	–	–	–	–	–	–
	Others	1	–	1	–	6	1	2	–	–	–
St.IV	S 2	9	–	5	–	1	–	–	–	–	–
	Others	5	–	17	3	25	1	11	1	1	–
St.V – VII	S 2	4	–	3	–	1	–	–	–	–	–
	Others	2	–	5	1	8	2	–	–	–	–
St.VIII	S 2	6	–	2	–	1	–	–	–	–	–
	Others	1	–	8	–	4	–	2	–	–	–
Over st.VIII	S 2	3	–	–	–	–	–	–	–	–	–

10. *Number of seeds.* This point presents very few problems. In our sample, normally from four up to fifteen seeds were used by the peasants. Compared with the recommended six seeds per hole, it follows that part of the seed is wasted, whereas some additional work during the thinning operation results. Although some attention to this point may therefore be desirable, it is on the other hand uneconomic for the peasant to count the seeds. The seeds are sticky and counting and separating the recommended number would probably require more time than the later additional work when the thinning operation takes place.

11. *Thinning and first weeding.* The recommendation to thin to two plants per stand is invariably followed and does not therefore constitute a problem.

Weeding on the other hand does not get the necessary attention of the farmer. Nearly always it is done too late, which considerably reduces the yields. As the crop calendar shows (p. 26) the food crops demand the farmer's attention at the same time and the first weeding of the cotton therefore usually proceeds at a very slow pace. This is especially true, when the planting takes place after the optimum time of planting, e.g. in January. Towards the end of January or in February there is often a dry spell of weather (between the "short" and the "long" rains). The peasant then has to wait until the rains resume as otherwise the two remaining plants could easily be damaged in the process. But when the rains start again, the farmer – or at any rate his wife – will work in the food *shamba* first. For this reason, no comparison between the individual peasants was possible.

Normally only two weedings are done, whereas three weedings would be required to obtain optimal results under average weather conditions. Obviously, this is also connected with the late beginning of the first weeding.

12. *Artificial fertilizers and farmyard manure.* Perhaps this subject, at least as far as the

artificials are concerned, is the most controversial one. The question could even be posed, whether at the present level of crop husbandry practices the use of relatively expensive fertilizers is desirable.

Even though artifical fertilizers are subsidized by the *V.F.C.U.*, the costs to the farmer are rather high in relation to the actual total nett cash returns (at the present level of cotton growing techniques employed by the peasants). The changing of the recommendation on superphosphate from 200 lbs to 100 lbs per acre has somewhat lowered the costs, but the peasant has still to pay shs 35/– (or shs 40/– if bought on credit) for the fertilizers sufficient for one acre. This represents roughly 20 per cent or more of his total cash returns, provided no hired labour has been employed in cultivation.

Secondly, a major point in conjunction with the application of artificials is, that unless the peasant also employs proper growing techniques such as timely planting and proper spacing, the increase in yield is much smaller than the theoretical doubling of the crop. As Rounce (1949, p.11) already pointed out, proper spacing, timely weeding and planting contribute as much to the gain in yields as do the fertilizers in addition to this. Therefore even if the peasant applies his fertilizers properly, but e.g. plants in February with a spacing of 24", he may find that his yield is only little better than before. In a number of cases his gain may be so small that it is not sufficient to cover the costs of the fertilizers.

This is especially so, because most farmers – also those who have bought artificial fertilizers – have only a very vague and incomplete idea of the method of application. Thus out of the 87 farmers in our sample who at one time bought artificial fertilizers, only 30 knew more or less how to use them. It is of interest to observe, that the educated farmers did not do any better in this respect than the illiterate peasants. Those farmers who knew, generally got their information from an extension officer during meetings at the co-operative society. Most farmers, however, made serious mistakes. For instance in several instances the fertilizers bought for one acre were spread over a much larger area. Sulphate of ammonia was applied (even by a secretary of a primary society) well after the cotton bolls had set, more than twelve weeks after planting, when the effect can be little else than marginal. The reason was: "I want much cotton, not leaves".

Moreover, the distribution of the fertilizers leaves much to be desired. For the 1965-'66 season very often the fertilizers were not available at the co-operative societies until a month or more after the optimal planting time had elapsed. At least the superphosphate could not be properly applied now by the "good" farmers. The peasants were told to buy in the name of progress. Those who did, carried their bags home but did not know what to do with them. Some peasants only used the sulphate of ammonia and stored the superphosphate, others stored the sulphate of ammonia in their bedroom and applied the superphosphate. One farmer even applied his fertilizers on his sweet potatoes, which he cultivated in the *Mbuga*, where these fertilizers are not effective at all. A few others put everything on their late maize, but in the wrong quantities. The situation was most bewildering and it is hardly surprising that the *V.F.C.U.* was left with thousands of tons of unsold fertilizers. Lack of adequate storage facilities appears to be the main cause for this poor organization. Secondly the fact that the secretaries of the primary societies must order the required quantities of fertilizers in advance from the *V.F.C.U.* also hinders an early ordering.

It needs very little imagination to conclude that in the circumstances any effective and economically justified use of the artificials is out of the question. Even if a regular and timely supply of the fertilizers can be ensured, better farming practices and a thorough knowledge of the method of application remain a prerequisite for successful use by the individual peasants. Although in almost every homestead there is at least someone who can read, nobody responsible for the distribution of the fertilizers has apparently ever thought of the possibility of issuing some simple printed instructions for use together with the bags of fertilizer! Again, at present one cannot reasonably expect an increased nett cash return from the use of artificials, a nett loss is more likely. In practically all cases where fertilizers had been applied, I could see no difference at all in the growth of the plants, number of cotton bolls etc. in comparison with unfertilized fields on the same soil type and planted at approximately the same time.

The danger in relation to the sales of fertilizers is that very often more or less subtle pressure is put on the peasants to buy by the various government officials. The great success of the increase in cotton production, together with the knowledge that the outputs can easily be doubled if fertilizers are applied, makes such action understandable. Thus on several occasions I was told about a certain headman who went round in his village to instruct the people of each homestead to go and buy fertilizers sufficient for at least one acre. The reason was that the headman himself had been told by the local authorities that his *gunguli* had bought too little during the previous year and that he consequently was supposed to do something about this. Members of the village development committee were told during meetings that they had to set an example in their own *kibanda.* Some of them complained that they had been warned that in case they would not buy, the money would still be substracted at the end of the cotton season from the sale of their crop.

Some form of enforcement is perhaps unavoidable, in order to speed up development. Moreover, it is generally in line with the ideas of the villagers who, contrary to the days of the Sukumaland development scheme, now expect some guidance and even compulsion of their government. At the same time, it is clear that unless the peasants who comply really benefit from the enforced new practice, they will increasingly resent it. The successful implementation at a later stage, when the farming practices have reached the necessary level is endangered in this way. As has been pointed out, artificial fertilizers are useless in conjunction with improper crop husbandry techniques. It is significant in this respect that many farmers, who had bought the fertilizers, said that it did not help them in any way.

Table VII-9 gives some particulars regarding the use of farmyard manure and artificial fertilizers by the peasants in our sample, correlated with their educational level.

Table VII-9: Farmers sample, use of farmyard manure and artificial fertilizers, and educational standard of the respondents

		Season 1965-'66				Previous years		Total number of respondents	
		Farmy. manure		Artific. fertil.		Artificial fertilizers			
		M	F	M	F	M	F	M	F
No school education	S 2	–	–	5	–	3	–	5	-
	Others	4	2	11	3	36	6	120	34
< st.IV	S 2	–	–	3	–	1	–	3	–
	Others	–	–	–	–	5	–	10	1
St.IV	S 2	–	–	13	–	12	–	15	–
	Others	3	1	12	–	22	–	59	5
St.V - VII	S 2	–	–	4	–	4	–	8	–
	Others	2	–	5	–	6	1	15	3
St.VIII	S 2	–	–	4	–	4	–	9	–
	Others	1	–	3	–	–	–	15	–
Over st.VIII	S 2	–	–	3	–	–	–	3	
Total	S 2	–	–	35	–	26	–	43	–
	Others	10	3	31	3	70	7	219	43

This time there is very little correlation between the educational standard and the use of artificial fertilizers and farmyard manure. It must, however, be taken into consideration that among the st.VIII respondents there were quite a few young school leavers, who apparently find it difficult to ask for credit from the local primary societies for the purchase of fertilizers.

Only very few farmers used farmyard manure. Availability is not the problem. Even those who do not possess cattle can obtain a sufficient quantity, as they have the right to ask for manure from their wealthier neighbours (cf. p. 29). The reason why manure is only rarely applied is the amount of work involved and lack of a suitable means of transportation. Moreover, this work has to be done in the cultivation season and would therefore have a negative impact on the availability of labour for cultivation itself. The artificial fertilizers require much less extra work and for this reason have much to commend them.

13. *Cash returns from cotton growing, without application of fertilizers.* The yield is naturally dependent on many factors, such as the total amount of rain and its distribution over the year, the fertility of the soil and the level of growing techniques employed by the

peasants. At the present level of crop husbandry practices an average yield of 400 lbs per acre, on a soil of mediocre fertility and under average weather conditions, seems a fair assumption, if no fertilizing is done and planting takes place in January. Two cases will be worked out here. In the first place the returns for an unmarried youth, who cultivates two acres of cotton. This represents a field of a more than average size for a st.VIII leaver:

Yield 400 lbs per acre, total yield 800 lbs, sold as shs –/45 per lb (average for grade A and C). Total gross cash returns: shs 360/–

Own labour input:	*Sesa*/ridge/plant	40 m/d.
	Thin/weed (two weedings)	30 "
	Pick (25 lbs per m/d.)	32 "
	Grade (35 lbs per m/d.)	23 "
	Clear	7 "
	Total	132 m/d.

Nett cash returns per man day (if no hired labour is employed): shs 2/73.

Secondly the case of an average household in Bukumbi subdivision, cultivating 3 acres (cf. p. 26) with three adult members is considered:

Yield 400 lbs per acre, total yield 1,200 lbs, sold at shs –/45 per lb. Total gross cash returns: shs 540/–.

Family labour input:	*Sesa*/ridge/plant	60 m/d.
	Thin/weed (two weedings)	45 "
	Pick (25 lbs per m/d.)	48 "
	Grade (35 lbs per m/d.)	34 "
	Clear	10 "
	Total	197 m/d.

Nett cash returns per man day (if no hired labour is employed): shs 2/73.

14. *Cash returns from cotton growing at an improved husbandry level, but without spraying.* In the case of an unmarried youth, planting before December 15 necessarily implies the use of some hired labour or tractor for cultivation. The same is true for picking, as a result of the doubled yield, even though a higher rate of picking has been assumed. Fertilizers have been charged at the 1966 rate, bought on credit:

Yield 800 lbs per acre, total yield 1,600 lbs, sold at shs -/45 per lb. Total gross cash returns: shs 720/-.

Own labour input:	*Sesa*/ridge/plant	20 m/d.
	Thin/weed (three weedings)	40 "
	Fertilizing	4 "
	Pick (32 lbs per m/d.)	40 "
	Grade (40 lbs per m/d.)	40 "
	Clear	7 "
	Total	151 m/d.

Costs:	Hired labour cultivation (20 m/d.)	shs 60/-
	Purchase artificial fertilizers	" 80/-
	Hired labour pick (10 m/d.)	" 30/-
	Total	shs 170/-

Total nett cash returns: shs 550/-.
Nett cash returns per man day: shs 3/64.

For the average household the situation is somewhat different. More labour is available, but the labour requirements of the food crops have to be taken into the account as well. At present the required planting of the cotton before December 15 probably still demands the use of some hired labour or mechanical traction. Only at a later stage, after the necessary improvements of the agricultural practices in the subsistence sector have been adopted, so that a different timing of the operations and a further decrease of the food acreage can be effectuated, will this be no longer necessary for three acres of cotton. In a limited schedule, however, some hired labour during cultivation must be accepted. Picking and grading on the other hand can be done solely by means of family labour. The figures for a three acres plot of an average household would therefore be as follows:

Yield 800 lbs per acre, total yield 2,400 lbs, sold at shs -/45 per lb. Total gross cash returns: shs 1,080/-.

Family labour input:	*Sesa*/ridge/plant	40 m/d.
	Thin/weed (three weedings)	60 "
	Fertilizing	6 "
	Pick (32 lbs per m/d.)	75 "
	Grade (40 lbs per m/d.)	60 "
	Clear	10 "
	Total	251 m/d.

Costs:	Hired labour cultivation (20 m/d.)	shs 60/-
	Purchase artificial fertilizers	" 120/-
	Total	shs 180/-

Total nett cash returns: shs 900/–.
Nett cash returns per man day: shs 3/59.

15. *Cash returns from cotton growing at an improved husbandry level including spraying.* Although this is still highly hypothetical, it seems useful to work out the cash returns at an improved husbandry level, when also hand spraying would be introduced. The increase in yield would, in the case of an unmarried youth, entail the hiring of more labour during the picking season. In comparison with the foregoing computations again a higher rate of picking and grading has been assumed, in view of the greater number of cotton bolls per plant and a probably more efficient use of the available labour:

Yield 1,200 lbs per acre, total yield 2,400 lbs, sold at shs –/45 per lb. Total gross cash returns: shs 1,080/–.

Own labour input:	*Sesa*/ridge/plant	20 m/d.
	Thin/weed	40 "
	Fertilizing	4 "
	Spraying	10 "
	Pick (40 lbs per m/d.)	40 "
	Grade (50 lbs per m/d.)	48 "
	Clear	7 "
	Total	169 m/d.

Costs:	Hired labour cultivation	shs 60/–
	Artificial fertilizers	" 80/–
	Spraying	" 100/–
	Labour pick (20 m/d.)	" 60/–
	Total	shs 300/–

Total nett cash returns: shs 780/–.
Nett cash returns per man day: shs 4/62.

The higher yield probably also has consequences for the use of hired labour in the case of an average household. Theoretically it may still be possible for the three adult members to cope with the picking and grading of the whole crop, but it seems very unlikely that in practice this will be the case, also in view of the existing leisure preference, meetings and other social obligations during the dry season. Even so the following figures already presume a considerable greater effort in comparison with the two previous computations:

Yield 1,200 lbs per acre, total yield 3,600 lbs, sold at shs -/45 per lb. Total gross cash returns: shs 1,620/-.

Family labour input:	*Sesa*/ridge/plant	40 m/d.
	Thin/weed	60 "
	Fertilizing	6 "
	Spraying	15 "
	Pick (40 lbs per m/d.)	70 "
	Grade (50 lbs per m/d.)	72 "
	Clear	10 "
	Total	273 m/d.

Costs:	Hired labour cultivation	shs 60/-
	Purchase artificial fertilizers	" 120/-
	Spraying	" 150/-
	Labour pick (20 m/d.)	" 60/-
	Total	shs 390/-

Total net cash returns: shs 1,230/-.
Nett cash returns per man day: shs 4/51.

16. *Some comments.* Obviously the foregoing figures are no more than a rough approximation. The basic figures as to the labour requirements for the various operations at the present level of crop husbandry techniques were mainly derived from Collinson (mimeo 1962) and are based on his observations. As, however, the returns for better growing practices have been worked out, also the productivity in picking and grading has been presumed to be better. The degree to which these improvements in efficiency have been calculated is naturally arbitrary. At the W.R.C. Ukiriguru the actual picking rate is considerably higher than the 40 lbs per m/d. assumed here for the third and highest level. But at Ukiriguru labour is paid on the basis of the weight of cotton picked and it seems unrealistic to expect a similar rate of picking in peasant farming. This does not mean that in future a higher efficiency than computed here is improbable, on the contrary. The computations made here are therefore only useful, when they are taken as indicative for the possible developments in the peasants' earnings, if better growing techniques are adopted in the near future, perhaps the next five years or so.

Yet, I believe that the figures are useful, because they demonstrate some of the major difficulties in agricultural extension work, when it comes to persuading the peasants to adopt the improved growing techniques. In the first place these computations may serve to demonstrate that the amount of investment required is quite considerable in relation to the cash returns at the traditional level. Including the costs of the necessary hired labour or mechanical traction, they would amount to as much as 47 per cent in the case of an unmarried youth. As the household at least theoretically can manage with less hired labour, the corresponding percentage is somewhat lower, namely 33 per cent. Another computation may of course yield different percentages, but it is clear that there is a very great risk involved for the peasant. The required artificial fertilizers alone represent already a large share of the nett cash returns at the traditional level. Since these artificials can be bought on credit, the availability of sufficient cash at the appropriate time is fortunately only of secondary importance, but the risk remains. The ability and willingness of the peasant to bear this risk is of crucial importance here. It is significant in this context, that with few exceptions, the peasants who bought artificial fertilizers only took the quantity sufficient for one acre. One is reminded of Boulding's first revised law of economic behaviour: "We will do today as we did yesterday unless there are very good reasons for doing otherwise" (1956, p.86), certainly when the risks involved in doing otherwise are so great. As Myren (1964) has pointed out "the idea to change requires no special effort on the part of the farmer. However, the decision to change requires considerable motivation and knowledge about the possible outcome and is accompanied by considerable risk and uncertainty".

Secondly, the improved techniques require a much larger labour input. The chief source of this extra work is the higher yield, which requires many more man days for picking and grading. In theory therefore, in addition to a higher nett cash return per man day, a major result of intensification would be a lesser degree of underemployment during the dry season and a corresponding higher total nett cash income. In our computations only a reasonable minimum of hired labour has been charged. It might well be that in practice a certain degree of substitution of family labour by hired labour would take place. On the other hand, the political thinking of President Nyerere, as outlined in "Socialism and Rural Development" (1967) may change this situation completely, as he strongly opposes the use of hired labourers and apparently also of the *ilika*. Obviously, more hired labour would have a negative impact on the total nett earnings of the farmer, although not on his nett cash returns per man day.

Collinson (personal communication) is of the opinion that a major cause of the widespread use of hired labour is the lack of a sufficient standard of management and the failure to plan the whole farm properly. The use of much hired labour at the inappropriate time, as found in our survey, points in the same direction. Neither can there by any doubt that the peasant possesses insufficient knowledge of modern farming techniques, to be able to take the right decisions. The conclusion must be that only through an intensive type of farmers education the desired development of peasant farming can indeed be achieved.

Finally, I believe the present objections against the use of hired labour, as raised in Presidents Nyerere's publication "Socialism and Rural Development" (1967) deserve some comment. It would appear that the implications of a policy based on this line of thought could retard the intensification of cotton growing and the further growth of the peasant incomes.

The computations used by the President in the first place refer to an extension of the cotton acreage under cultivation, for which the use of hired labourers is needed. As we tried to demonstrate, however, already the proper growing methods on the present small acrage would require additional labour in many instances i.e. long before a yield of 1,500 lbs per acre on which the President bases his computations is reached. It is true, that the demand for hired labour is concentrated during the planting season and at the harvest. The first peak in the demand could be met by using more tractors in stead of hired labour (if the tractor drivers can be employed the whole year round!). The costs for the peasants would, at the present price, remain almost the same. It would, however, entail a heavier demand upon the available foreign exchange (cf. Lewis, 1955, p.130).

As to the substitution of hired labour during the picking season, the situation is more complex. No mechanized picking seems possible under the present conditions. This means, that the picking of the cotton crop could easily become a major constraint. Fortunately a great increase in productivity for this operation is still possible. Secondly, it is pointed out that the great majority of the labourers at this time of the year come from areas where there is little or no work to be done in agriculture during the dry season. For these labourers, work in the fields of the Sukuma therefore means a real addition to their income and they do not receive "less than they could receive if they worked on their own account" (Nyerere, op.cit.), simply because there is no other work for them to do. It is true, that the money earned by these workers is less than the government minimum wages. But this holds also true for the nett cash returns per man day of the peasants themselves at the present level of crop husbandry practices. The remuneration of the labourers (about shs 3/– per day, including the food provided) does not compare unfavourably with the shs 2/75 per man day of the peasants themselves. These remarks do not hold true for the many Sukuma *elika*, unless they operate as mutual aid groups. The activities for non-members indeed limit the working capacity of the (mostly young) members on their own fields.

It is to be hoped therefore, that before this policy is put into effect further thought will be given to the consequences, in particular to the necessary intensification of the cotton growing methods. At the present stage at least it must be feared that it will greatly complicate the farm management problems, already a weak point of the Sukuma peasants. In particular, it must be feared that implementation would have negative consequences for the opportunities of the unmarried primary school leavers to find a profitable existence in agriculture.

17. *Farmers training course for the inhabitants of Kigoma kibanda.* After the first survey among the peasants was completed, the inhabitants of Suke-, Kigoma- and Nyamikoma *nzengo* (Kigoma *kibanda*) were asked to attend a week's course at M.A.T.I. Nyegezi. Twenty people, of varying educational level, were found willing to attend. Unfortunately, the 1966-'67 season's rainfall figures were totally different from the normal pattern and the previous year's figures. The rains began very early, in September, but the whole month of December and part of January were exceptionally dry. Planting as a result everywhere began earlier than usual, but almost came to a standstill in December. The data collected concerning the time of planting therefore cannot be compared. The only conclusion is that in comparison with the villagers who did not attend the course, the participants did little better.

A very different matter was the spacing used. It was found that the spacing on the fields of the participants had greatly improved, from an average of 24" to 19", whereas the spacing of the others had remained the same.

The thinning and weeding operations were naturally also greatly influenced by the weather conditions and did not therefore lend themselves for comparison. The only possibility left was the use of artificial fertilizers. Again the data collected do not allow of any definite conclusions. More people than the previous year had bought fertilizers, but this was true of both the participants and of the other villagers. The fertilizers had been available in time this year and apparently also more pressure had been exercized on the people to buy them. Perhaps more significant was the fact that none of the participants bought more than the quantity recommended for one acre only. Most of them said that they did not have money to buy more and that they did not like to incur a great debt at the co-operative society.

Consequently the available data does not allow any definite conclusions to be drawn. It would appear, however, that the success of the course given to "average" peasants is at best only partial. In view of the foregoing remarks regarding the labour problems involved in earlier planting, the uncertainties for the peasants when it comes to a considerable investment in fertilizers etc. this is hardly surprising.

18. *Distribution of pamphlets in Ng'wasonge kibanda.* In October and early November in all homesteads of Ng'wasonge *kibanda* two small pamphlets were distributed, which described the recommended cotton growing practices in some detail. The (mimeographed) pamphlets had been written in Kiswahili by students of the Nyegezi Social Training Centre, in close co-operation with the staff of M.A.T.I. Nyegezi.

When the cotton growers in Ng'wasonge were visited again in March 1967, it turned out that 60 per cent of them had never seen the pamphlets, at least according to their statements.

A number of pamphlets were burnt by playing children, others simply disappeared. Without exception, the peasants who did read the pamphlets said that they "did not follow the instructions", but no reasons were mentioned. Clearly they had no confidence in the recommended changes. Small wonder, that the growing practices did not differ from the previous year. The only difference was the amount of fertilizer bought, which was much greater this year. The reason was, that the headman had gone round in the *kibanda* to announce that all homesteads were to buy at least the amount required for one acre.

It seems likely, on the basis of this experience, that the influence of reading matter, certainly when not visually attractive, if not supported by oral instruction has only a very limited effect in agricultural extension.

CHAPTER VIII

THE BUKUMBI CREDIT UNION AND THE USAGARA BLOCK CULTIVATION SCHEME

1. *Reasons for selecting the two institutions.* The use of credit is an important part of the necessary modernization of peasant agriculture in this part of Sukumaland. The "Witogwa wa Bukumbi (= lovers of Bukumbi) Credit Union Ltd.", although established with the assistance of the R.C. Mission, is now a completely independent small institution, managed by the people of Bukumbi themselves. Most of its members are peasant farmers, with a varying degree of school education, although some of them never attended school. It appeared therefore of interest to record the way this credit union functions, as this may throw some light on the ideas and understanding of the peasant of the meaning of credit and of the peasants' money management in general.

The Usagara block cultivation scheme represents a novel development in the field of communal agriculture in Tanzania. In view of the recent publication of President Nyerere on "Socialism and Rural Development" (1967), there can be little doubt that this type of organization will receive more emphasis in the coming years. Besides, it seemed pertinent to make some investigations on the block schemes, in order to see the extent to which both educated and uneducated peasants had made use of this new opportunity to increase their money income from cotton growing. At the time it was hoped that the interviews would also help to see whether or not the educational standard of the participants correlated with their attitude towards this new scheme.

We are indebted to Mr. T. Bakirane, at the time N.S.T.C. lecturer in economics, for his help in conducting the interviews with the members of the two institutions.

2. *History and aims of the credit union.* The predecessor to the present credit union was founded in 1947, as a Catholic Action Movement in Bukumbi parish. Although this aspect

has been abandoned, the ecclesiastical origin is still observable at the meetings, which are opened with prayers and an invocation of St. Charles Lwanga, the patron of the African Catholic Action.

The stated aims of the original *chama* (association) were:

- To give (not to lend) money to its members for transportation to the Bukumbi hospital and for medical treatment there;
- To pay Mass stipends for a deceased member or a member's close relative;
- When called upon, to cultivate the fields of a member free of charge and for non-members at the rate of shs 50/– per day.

Membership amounted to 35 and the annual contribution paid by the members was only shs 1/10. The money was kept by the parish priest of the Bukumbi mission. As such, the set-up was very modest and, as the third aim demonstrates, the *chama* was closely modelled on the traditional pattern of the many similar *ilika* (cultivating societies) in Sukumaland. There was, however, one aspect in which this society differed from the traditional pattern. The money earned by working for non-members was not completely spent on beer or even shared among the workers, but except for a few shillings, saved. The members were very proud of their achievement and sought new ways to augment their funds. In 1958 they decided to communally cultivate a cotton *shamba*. Most of the proceeds again went into the *chama*'s funds. Unfortunately this activity had to be given up in 1962, due to the scarcity of suitable farm land.

By 1959 the *chama* had accumulated a capital of shs 3,000/–, a remarkable achievement. It was then decided to extend the activities. From then on, the members could deposit their savings with the *chama*, and borrow money at a 10 per cent interest rate. A year later, however, the new Bukumbi parish priest, understandably afraid of theft at the mission, refused to keep so much money. In the ensuing discord the money, except for shs 450/– set aside for Mass stipends and medical treatment, was taken to the house of the secretary. The members also decided that their *chama* would be renamed "Ipelelo" (refuge for those needing help). This entailed, however, no change in the *chama*'s aims. The risk of theft was certainly not less at the secretary's house than at the mission. Therefore it was perhaps fortunate that the credits were in such great demand. In 1960 the interest rate on loans was fixed at 12 per cent and the next year it was decided to charge as much as 18 per cent. The members were of the opinion that this was a good means to increase the funds of the *chama*.

In 1961 the parish priest advised the members to have their society officially registered as a credit union. The regional registrar of co-operatives and a lecturer from the Nyegezi Social Training Centre were invited on behalf of the members to give the necessary explanation and help. The following year the *chama* was officially recognized and registered as the

"Witogwa wa Bukumbi Credit Union Ltd."

In agreement with the advice given, the opportunity was created for non-Catholics to join the credit union. Consequently it could no longer be obligatory to contribute for Mass stipends. Thus it was decided that Ipelelo would continue to exist as a separate body. New members could either join the credit union only, or both the credit union and Ipelelo. The Ipelelo Association bought shares in the newly founded credit union and deposited the greater part of its funds with it.

3. *The Ipelelo Association.* As has been stated, Ipelelo, the main share holder of the credit union, more or less represents the original Catholic Action Movement. In 1965 it had 61 members, who had to contribute shs 12/– annually for Mass stipends and medical treatment. The costs of medical treatment and also of the Mass stipends are much higher now than they were in 1947. Besides, in 1947 treatment at a hospital in case of illness was still the exception rather than the rule, whereas it is now accepted practice in Bukumbi, especially among Catholics. Only 20 members actually paid their contribution in 1965. Furthermore, the members have to take part in communal cultivation work, whenever the association is called upon to do so. The owner of the field has to pay shs 55/– per day, regardless of the number of people who actually turn up on the appointed day. To a European observer this arrangement may seem somewhat strange at first sight, but it is obvious that nobody would hire an *ilika* which cannot ensure the participation of a sufficient number of its members. Cultivation is usually done on Saturdays, when the school going children are free to look after their father's cattle. The work begins between 8.00 and 9.00 in the morning and is terminated between 4.30 and 5.30 P.M. Traditionally the owner of the field will provide a meal for the participants, but this is not obligatory. The shs 55/– are divided as follows:

- shs 30/– is saved and deposited with the credit union;
- shs 20/– is spent on beer for the participants. This amount is sufficient to buy one large tin, containing four gallons. The beer is drunk after the work is finished;
- shs 5/– is divided between the members who do not drink beer.

Ipelelo pays shs 15/– for Mass stipends in case a member or his close relative dies. Furthermore, if necessary shs 15/– is paid to members for transportation to and medical treatment at the Bukumbi hospital. Those members who did not take part in the cultivation activities of the *chama* only obtain shs 10/–.

End 1965 the deposits of Ipelelo with the credit union amounted to shs 2,259/–. Plans had been made to withdraw part of this deposit, to begin trading in udaga (dried cassava flour). The trade in cassava and cassava flour is very profitable. Depending on the season, a profit of 100 per cent and more can be made. The cassava is bought in the Geita district (often when still in the field), if necessary harvested and sold in or near Mwanza town. End 1966, however, these plans had not yet been realized.

All functionaries of the Ipelelo Association are peasant farmers. The chairman (no school education) informs the committee members when communal cultivation has been agreed upon. Each committee member is in turn responsible for contacting certain members, to inform them. The secretary has st.III education. The treasurer (st.IV) is at the same time President of the Credit Union. He does not keep any cash for Ipelelo. The money is either kept by the parish priest (for Mass stipends etc.) or deposited with the Credit Union. Another functionary is the askari, who supervises the communal cultivation work. The committee consists of seven members. Together with the above mentioned officials they decide on the applications for payment of Mass stipends and for medical treatment expenses.

4. *The organization of the Credit Union.* The Credit Union is organized along similar lines. It has a president (st.IV), a secretary (st.VIII) – who in addition to farming is employed as tax collector during the dry season –, a treasurer (st.VI) – a weighting clerk at the primary society of Ng'walugwabagole –, a vice-president (st.IV) and seven committee members (the same people as in the Ipelelo Association). Together they are responsible for the approval of loans and the general supervision of the union's assets. The secretary, with st.VIII the best educated functionary, got a two weeks course in bookkeeping at the Nyegezi Social Training Centre and has been made responsible for preparing the required monthly (internal) statements regarding the financial position of the Credit Union. Inspection, by the inspector of Co-operatives in Mwanza town, is carried out twice a year, after previous announcement of the inspector's visit. The monthly statements were apparently only made shortly before this inspection. At least, for the past six months they were not available. The union has a savings account with the National Co-operative and Development Bank in Mwanza town.

On entering the Credit Union, a member is required to pay an entrance of shs 5/– and to buy a share of shs 10/–. No interest is paid on these shares. The working capital furthermore consists of the shares and the deposits of Ipelelo. An important part is made up by the deposits of the individual members, on which 6 per cent interest is paid. The main reason for these deposits is apparently not so much that the members wish to save, but the fact that a member, in order to qualify for a loan, must have deposited at least shs 50/– with the Credit Union.

According to the treasurer, at the end of November 1965 the Union had shs 6,200/– deposited with the bank, and shs 5,678/– outstanding with its members. Loans for the new season had not yet been issued, which explains the relatively large deposit at the bank. 15 members (out of 53 who had obtained a loan) had not yet repaid last years loan (of about shs 150/–). Consequently, some shs 3,500/– must have been outstanding from previous years. Although in theory the Credit Union has the right to sell the security offered for a loan, in practice such action is apparently not taken.

Ever since its foundation, membership has fluctuated considerably due to resignations, death, change of residence and expulsion because of non-payment of debts. End 1965 the Union had 81 members. Most of them were peasant farmers, only 17 members were regularly employed outside agriculture. 13 others, in addition to farming, were engaged in some other activity, mainly in building and carpentry. With the exception of five peasants, all members were Catholics.

5. *Loans*. To qualify for a loan, the following conditions must be fulfilled:

- The applicant must have deposited at least shs 50/– with the Credit Union;
- He must have repaid all previous loans;
- He must state the purpose of the loan and the security offered in case of non-repayment;
- There must be two witnesses to countersign his promissory note;
- Applications must be made in writing (since 1965 special forms are available for this purpose; they are usually filled in during the annual meeting in November);
- These applications must be sent in before November 14th.

The loans have to be repaid within a year and 12 per cent interest is charged. Shortly before November 14th the officials and committee members meet to decide how much money is available for the loans. Then a general meeting is held, when the members are informed of the total amount available. As normally the total of the loans requested by the members – the application forms are filled in during this meeting – greatly exceeds the available funds, the money is divided equally between the approved applicants.

In 1965 as many as 53 members received a loan. This figure represents two thirds of the total membership. Those who did not obtain a loan had as a rule not yet repaid a previous loan, or in a few cases had been absent at the November meeting. Out of the 78 members who were interviewed, only two stated that, although they were qualified to get a loan and had been present at the meeting, they had not applied for one. They were the primary school teacher and an inspector of co-operative unions, the only two members with an educational level above st.VIII. All others, irrespective of their educational background, considered the taking of a loan, if possible, as completely self-evident. This was exactly the whole fun of their *chama*. As the secretary (st.VIII) put it quite typically: "Members must borrow from their union, even if they do not need the money. For the union is a society for saving and borrowing". Another reason frequently encountered during the interviews was: "By borrowing the union funds increase, since the loans are paid back with interest. Moreover, the more interest paid on loans, the more members get as earnings on their savings".

It is clear that the members do not understand the concepts underlying a Credit Union. Ill-conceived self-interest is strangely interwoven with pride of their *chama*. This is a thing of their own, closely modelled on the traditional pattern and yet the first of its kind in Sukumaland. Typical in this respect is also the decision taken at the annual meeting in November 1965. It was then decided that all members would annually save at least shs 50/– and deposit it with the Credit Union. There were two reasons for this decision. Firstly that in this way the amount available for loans could be increased rapidly and secondly that the members would save and earn more interest on their deposits. In 1965 the maximum loan amounted to shs 150/–, so that more than a third of the loan was made up by the members' own deposits and shares. The rest is for the most part accounted for by the deposits of Ipelelo. It is clear, that if the members will increase their deposits, an even higher percentage of the loan will consist of the members' own deposits with the Credit Union.

6. *The use made of the credits taken.* Also the use made of the credits taken demonstrates the misconceptions. One fisherman bought nets from his loan and therefore at least used the money productively. Five members stated that they had used their loan for the payment of school fees for their children. All others said to have spent the money on hired labour during the cultivation season. The same reason was almost invariably stated on the application forms. No tractors or labourers were hired, in all cases the *Kisumba* of the village, a dance society or another cultivating group had been called in. The amount actually paid for the work done by these *ilika* varied between shs 15/– and shs 120/–. On average no more than half the loan had been used on the purpose stated on the application forms.

It is questionable whether in most cases the hiring of labour can indeed be considered as a productive investment, which, moreover, necessitates the taking of a loan. In the first place, hiring labour or mechanical traction is only economically justified if it fully supplements – and not merely substitutes – the available family labour. Secondly, the question poses itself whether the taking of a loan is at all necessary, even if the use of an *ilika* is justified. As was mentioned earlier (cf. p.112) these cultivation groups can normally be paid the greater part of their fees after the cotton has been sold. In fact therefore the Credit Union is not at all indispensable for the peasants who wish to hire labour. The same is true for the peasants who wish to hire a tractor, or purchase artificial fertilizers, which can be had on credit from the co-operative societies of the *V.F.C.U.*

7. *The Usagara block cultivation scheme.* In 1964 the Tanzania government decided to start a number of mechanized block cultivation schemes in Sukumaland and adjacent areas. Within one year 43 such schemes were set up, with over 8,000 acres of land under cultivation. One of these schemes was located near Usagara, in Bukumbi subdivision. The Usagara block farm was object of our investigations, because it was located in our research area. This does not mean that this particular scheme is representative for the whole project. Although there are several other block farms – all of them located in the densely settled areas of Mwanza district – which show comparable results, there are – particularly in the Geita district and in the Mara region – several highly successful schemes.

8. *Theoretical foundations.* It seems useful to first recall some of the most important principles underlying the set-up of the block cultivation schemes (cf. Collinson, mimeo 1965 (b), from the economic point of view:

– It is mainly the shortage of family labour during the cultivation season which at present restricts the cotton acreage an individual peasant family can cope with by means of hand cultivation. Assuming that additional land is available for cultivation purposes, a peasant can often only increase his cotton acreage given a mechanical means of cultivation or the use of hired labourers or *ilika*;

– Adequate supervision on the block cultivation schemes can be expected to lead to a considerable increase of the yields through the introduction of improved growing practices: correct time of planting, spacing and thinning of the cotton plants, the application of artificial fertilizers and timely weeding. The use of fertilizers, in combination with improved growing practices, can bring up the yields from approximately 400 lbs to 800 lbs per acre. If in addition spraying with insecticides is introduced, yields of 1,200 lbs and more per acre become possible. Naturally these figures are approximations. The final yields are also dependent on rainfall incidence and soil fertility;

– Capital is a scarcer production factor than labour in Tanzania. It is consequently never economic to substitute capital for labour. The only justification for the use of scarce capital is that it can supplement already fully engaged family labour in the most labour intensive operation, i.e. cultivation, so that a significant increase in the production becomes possible both from earlier planting of the crop and from a larger acreage. This holds especially true if, as is the case in Tanzania, the use of temporarily hired labourers is undesirable for ideological or other reasons;

– The block cultivation schemes have excellent extension possibilities. The results of improved husbandry techniques can be demonstrated to the peasants on their own fields on the farm;

– Through the amalgation of the scattered cotton fields, a more efficient use of the 150

V.F.C.U. tractors — which were then already available — becomes possible.

9. *Location.* The Usagara block cultivation scheme is situated on the east of the Mwanza – Tabora road, between the settlement of Usagara and the Nyang'homango primary society (cf. map 4). Its 196 acres occupy part of the farm land of three *shibanda*, namely of Nyamadoke, Nyang'homango and Usagara. As such it is located in one of the most densely settled areas of Sukumaland. The land chosen for this block scheme was already fully occupied by the inhabitants of the three mentioned *shibanda*. No detailed population figures are available, but this point can be illustrated by the data gathered from the participants of the scheme. Out of the 104 members interviewed, 39 had all their land and 8 part of it within the area selected for the block farm. The total acreage per family (i.e. including fallow) can therefore never have been over the 6.5 acres, which is the average acreage actually under cultivation according to Collinson (mimeo 1962) for the whole of Bukumbi subdivision: The total area occupied by the scheme is only 196 acres.

As will be shown, it is this relative land shortage in the area which explains the attitude of most participants. The same fact and, connected with it, the poor soil fertility, also largely decided the negative initial results.

10. *Organization of the scheme.* As is the case with all schemes of this kind in the area, the necessary managerial staff was provided by the ministry of agriculture. In 1965 there were two assistant field officers stationed at the scheme. Besides this supervisory staff, there is an elected committee of twelve members. The *V.F.C.U.* in practice bears the financial risks, since it provided the necessary equipment and advanced the credit for fertilizers and for the cost of spraying. It has, however, no definite influence on the decisions made.

11. *The participants and their opinion about the scheme.* In 1965 there were 104 participants, most of whom had two acres of cotton and some one acre. It was somewhat difficult to ascertain the reasons why they had joined the scheme. It soon became apparent, however, that it was possible to distinguish between three different categories:

1. Those participants who had cultivated land on the site chosen for the block scheme. These peasants had lost all, or at least part of their land, including their food *shambas*. For these people there were obviously two possibilities, to join the scheme or to find land elsewhere i.e. to migrate to the Geita district. Nearly all of them joined the farm. One reason why they preferred to stay was that they hoped that some form of compensation would be paid for their loss of land and crops (in some instances cassava was uprooted when the land was cleared). This category accounted for 47 people, or nearly half the total number of participants.

2. Those participants who did not have any cotton fields, or who paid land rent before they joined the scheme. Most of the people in this category lived at Usagara as shopkeepers, tailors, teachers etc. Their motive was obvious. There was now a chance to secure land which previously had been impossible, except on payment of a fairly high land rent. This category comprised of some 30 members.
3. Those participants who already cultivated cotton fields outside the area chosen for the block cultivation scheme. It will be clear that for them mechanized cultivation can be profitable, if they continue to cultivate at least the same cotton acreage by means of family labour on their own farm.

Understandably, the first category complained bitterly. The great majority of them had not been able to secure land elsewhere for the cultivation of their food crops and consequently they were faced with a serious food shortage. Land to compensate them had been promised, but was simply not available in the neighbourhood of the block scheme. They received no financial compensation either, and would have to feed their family from their earnings on the scheme i.e. less than shs 400/– in the first year if the costs of cultivation, fertilizing and spraying were deducted. The following quotation is typical: "I refused to contribute five shillings to celebrate the first harvest of the farm. There is no reason to rejoice, when children are starving at home". Naturally, since these peasants had only two acres on the block farm and no other land, they did not see any point in further mechanical cultivation, which would only add to their costs. The available family labour could easily cope with these two acres. Many of them now contemplated migration to the Geita district, but were still hesitant because of the political pressure. Some of the farmers had been arrested when they went to ask for compensation.

As a matter of fact, there is a great difference between the second and the third category. But they have one thing in common, which greatly influenced their attitude towards the block scheme, namely that they both expected to gain. Their nett income was likely to be higher too if – as was often the case – labour had been hired for weeding and picking. Their complaints were of a more general nature, in part related to the difficulties inherent to the somewhat rash beginning. Thus the peasants did not know the total costs. They had been allowed 400 lbs of cotton per acre without deduction. For all cotton above these 400 lbs they had been given a receipt and they feared that they would not get much money from this part of their crop. In fact the situation was much worse. The actual costs for the 1964-'65 season were about shs 230/– per acre (tractor costs 75/–, artificial fertilizers 45/–, spraying by aeroplane 110/–) management costs not included. The average yield is not known, but most likely was between 600 and 650 lbs per acre. The causes of the low yield will be discussed later. Suffice to state here that at best only half the actual costs could be recovered in this way. In practice, moreover, a number of farmers marketed part of their cotton crop on other than the days appointed for the scheme or through relatives, so that from them less or even nothing could be recovered. Detection of this fraud was impossible. The yields of the individual plots varied enormously and all participants were allowed to take their cotton home for grading.

12. *Causes of the low yields.* The most important factor, which had a negative influence on the yields was the poor soil fertility. The soil near Usagara is practically exhausted, due to long and intensive use. Even the cassava which was grown on the site chosen for the scheme took three years to mature. Some of the plots were even refused by the peasants for this reason after the first allocation, and had later to be redistributed. This poor soil fertility makes a target of 1,000 lbs or more per acre highly unrealistic.

The first year's crop was also effected by the rather late planting (end December). The plots were distributed after planting and left to individual care afterwards. Some plots, however, were only given out in March or April. They had not been weeded, nor had the stands been thinned out at the appropriate time. In general weeding was a weak point.

According to the chairman of the committee, plans had been made to improve the soil fertility, by applying farmyard manure. However, about five tons per acre are required. To say the least, it is difficult to see how about 1,000 tons of farmyard manure could be collected from the scattered farms and transported to the site of the block scheme, quite apart from the amount of work involved and the transportation costs.

The inevitable conclusion is, that this scheme must fail, owing to the unsuitable selection of the site. Not only did nearly half the total number of participants – those who originally occupied the site – suffer a considerable and real loss of income due to the scarcity of land, but also the soil fertility is totally inadequate. Even if the usual initial difficulties are overcome, the costs can only be fully recovered in a good year 1).

13. *Some comments.* The story of the Credit Union highlights one of the weakest points of the Sukuma peasants, namely money management. The ordinary farmers (including the primary school leavers) have no idea of the meaning of investment, cost-benefit relationships etc. They are clearly not capable of making simple cost computations, at least they do not seem to make any. The Credit Union is no more than the old "game" of building a strong association. Its contribution to a better understanding of new conceptions that are indispensable to become a successful modern peasant farmer is practically nil. Modern farming implies far more than some knowledge of improved husbandry techniques. It requires of the farmer the decision to introduce them. The farmer can only be expected to do so, if he can oversee the consequences and if necessary make the required changes, also

in the other sectors of his farm. The connection between food crops and cash crops has already been shown (cf. p. 27). The peasant must decide what crops and where to grow, when to plant them etc. It is clear that e.g. the need to plant the cotton earlier necessitates an adjustment in the subsistence sector. The application of artificial fertilizers and the use of mechanical traction are new elements. They require considerable investment. This investment may be small in our eyes, it is an important part of the present total cash income of the farmer. He runs a real risk and must therefore possess sufficient knowledge to compute his costs and the benefits from the higher yields. It is of interest to note here that Moris (Kericho Conference on Education, Employment and Rural Development, 1966) found a clear linkage between successful businessmen and progressive farming. "One suspects that the 'better farmer' has learned how to compute his costs on an enterprise basis, and that this makes him a better judge of his investment opportunities". And also "If it is money management which makes the businessman a better farmer, then any policy which increases this capability will also have a 'multiplier effect' on farming. Such techniques can be taught in the school as well". Despite eight years of primary education, the st.VIII members of the Credit Union did not have a better understanding of this aspect in any way. The conclusion must be, that the school functions unsatisfactorily in this field, which is so important for the modernization of peasant farming. Without an extensive knowledge of this subject, the peasant is confronted with uncertainty, and not with a calculable risk.

The block cultivation scheme demonstrates another weakness, namely of the often poor and rash organization of new institutions. Extension work in the villages is seriously hampered by such mistakes. At least in Bukumbi the situation had arisen that anyone who looked at a peasant's field was at once suspected to be looking for a new site to establish a block cultivation scheme. Furthermore, the fact that the yields on the scheme were so little higher than on the peasant's own fields, despite the enormous costs, naturally will not encourage the peasants to follow the advice of the extension service.

In general it must be said, that the extension service and the way it works in the villages deserve further consideration. One of the points is as Moris (op.cit.) remarked "Agricultural staff in the field pass on recommendations, not information. They minister to the converted, so to speak, rather than in disseminating the commodity which would create new converts". The same observation can be made in respect of the block farm. The participants were completely unaware of the total cost. One of them said: "We are led blindly, like cows". Obviously, the excellent extension possibilities which the schemes of this type have, were not realized in Bukumbi. There are but very few converts here and the majority of the peasants has only become more suspicious of the intention of the extension service. The general feeling of the people was put into the words of a song, that could soon be heard everywhere in Bukumbi:

Natatogwagwa buluba wa maendeleo,
Nyerere wizile mTanganyika,
Buluba wa maendeleo waliselagwa na ndege,
Natatogwagwa buluba wa maendeleo etc. 2)

Notes and references

1) Since the costs could not be recovered, in 1966 the decision was taken that the participants would have to pay them in advance. In practice this probably means that the least promising schemes, like the one in Bukumbi, will have to be terminated.

2) Translation: I do not like the cotton of maendeleo (i.e. progress here the block farm)
Nyerere came in the country (i.e. to open the farm)
The cotton is sprayed from an aeroplane,
I do not like the cotton of the block farm etc.

For the exact text and translation of this song we are indebted to Miss C. Varkevisser.

CHAPTER IX

CONCLUSION

In this last chapter an attempt will be made to shortly review the main results of our investigations, in so far as they are directly relevant to the problem stated at the beginning of this study, viz. the observable effect of primary education on economic behaviour. Particular attention will be paid to the present contribution of the primary school towards increased productivity in peasant farming. Secondly, since the outcome of this analysis is rather negative, we shall try to establish some of the main causes why this is so, and point out a few possibilities which, in our opinion, could improve the situation.

1. *Primary school leavers do go into peasant agriculture.* Until recently, the question of the contribution of primary education towards increased productivity in peasant farming could easily be dismissed as irrelevant, at least as far as upper primary education was concerned. There were simply too few primary school leavers who earned their living through farming. At the beginning of the colonial era "the State interest in education . . . . stemmed from the need for local clerks and junior officials; . . . . various religious groups were interested in spreading literacy and other education as part of their religious work" (Nyerere, 1967, p.3). The Sukuma were hardly interested in school education and the White Fathers – who were very active in this field in Bukumbi – had great difficulties to attract a sufficient number of pupils. Slowly, however, the people began to realize that school education could open the door to well-paid jobs. As private industry and trade began to develop, new opportunities were created for the few (semi-) educated young men. At the time, the modern sector of the economy could easily absorb the slowly expanding output of the primary schools.

After the second world war the demand for school education increased rapidly. To be educated meant a job, which in the eyes of the people now held a greater prestige than farming. A job meant a good and regular income and favourable prospects for the future. In response to the growing demand for school education, the colonial regime and after 1961 the Tanzania government, greatly expanded the educational facilities. It is appropriate to recall here that especially after 1961 the greatest expansion has taken place in upper primary education. The results of this policy now begin to show themselves in a rapidly growing number of primary school leavers. Despite an impressive extension of the much more expensive secondary school system, the situation is at present such that no more than about 15 per cent of the primary school leavers can be selected for further education. All others, i.e. annually some 50,000 children either have to find paid employment or, in case they do not succeed, must live from the land.

Unfortunately this growing number of school leavers coincides with a significant decrease in the number of jobs available in the modern sector of the economy. New job opportunities are few (at best some 40,000 during the present plan period 1964-'69, but probably less). Moreover, chiefly owing to the existing disparities in income between wage earners and peasant farmers, the number of vacancies due to departure of existing employees has decreased too. The result is that the great majority of the primary school leavers – and their less educated age companions – cannot secure permanent employment. As the composition of our farmers sample sufficiently demonstrates, there are already many primary school leavers engaged in farming and undoubtedly their number will increase rapidly in the near future. Therefore the question whether or not primary education contributes towards economic development of the local community, through increased productivity in peasant farming has become highly relevant and justified.

2. *Attitudes of primary school leavers towards peasant farming.* As the results of our job preference test indicate, the opinion of the school leavers about peasant farming is by no means as negative as is commonly supposed. If the st.VIII pupils are too optimistic in respect of their chances to be admitted to the secondary school, they are fully aware that, in case they are not selected, they will have to depend on farming for their living. Farming in their opinion does not mean a good "profit", but at least a secure living and some money. With few exceptions they seem to accept this and there is no evidence of a massive and uncompromising attitude (cf. also the forthcoming study by Kaayk). This may have been the case some ten years ago, but the school leavers have long adapted their views to the new situation. It is emphasized, however, that this conclusion holds true for Sukumaland only. In some other parts of the country, in case farming offers much smaller financial rewards than in Sukumaland, the reactions might be somewhat different. This would require further investigation. Interviews with many st. VIII migrants in Mwanza town do not, however, hint in this direction.

3. *Possibilities for increased productivity in peasant farming.* From what has been said in chapters II and VII about the cultivation techniques applied by the peasants - both in respect of food- and of cash crops - it is clear that Sukumaland offers favourable prospects for further agricultural development. In some areas, where land is still relatively abundant, an extension of the acreage under cultivation is possible with the help of a tractor or ox plough. More often – as is the case in Bukumbi subdivision – intensification is indicated to raise the peasant incomes. For cotton, the main cash crop, the required modern growing practices have already been worked out and these techniques are disseminated by the agricultural extension service. For the most important food crops the Western Research Centre Ukiriguru has prepared the chief recommendations. Although much work remains to be done, especially in the field of overall farm planning and mixed cropping, the various experiments have sufficiently demonstrated that a doubling of the nett income is already within reach of the progressive farmer who is willing – and able – to introduce the recommended growing practices. Similar favourable prospects are present in animal husbandry, provided the problems around the land tenure system can be solved.

We need not dwell here upon the multiplier effect, the increase in purchasing power and the demand which is generated for tractor workshops, drivers, mechanics, carpenters and bricklayers, or even upon the importance of the resulting diversification of the occupational structure which a doubling of the peasant incomes would imply. Yet, it seems appropriate to stress, that for an unmarried school leaver – and other young men – even a cash income twice as high as at present, would still compare unfavourably with the wages paid in town. Though the costs of living in town are considerably higher than in the rural area, it cannot be expected that the inclination of the school leavers to first consider migration will disappear, if they are not selected for further education. Moreover, further wage increases in the modern sector can easily have a strong influence in this respect. As was pointed out (p. 78), however, the decision whether or not to migrate is not only based on income disparities, but equally on such considerations as the job opportunities in town and in the rural area itself. Besides, it is clear that also the expected income from farming and other activities in the village play an important role. Therefore, it is only reasonable to expect that the higher nett income resulting from the introduction of modern growing techniques will lead to a diminishing flow of migrants to the town and also – perhaps even more important – to a shorter period of residence in town of the unsuccessful job seekers, i.e. provided the wage level in the urban areas can be kept in hand.

Equally important, and directly relevant to our argument, is the fact that the possibility to double the nett cash income from farming, if this can actually be demonstrated to them, forms a good basis for the teaching of agriculture to pupils and school leavers. As Kaayk's investigations prove, the profit motive is well developed among these youngsters. Taking into the account also the unexpectedly favourable reactions of the school children towards peasant farming as a way of living, it must be possible to interest the children in agriculture as a subject of the primary school curriculum or for special courses in this field.

4. *Present knowledge and farming practices.* As our investigations demonstrate, the growing methods of the primary school leavers hardly differ from the techniques employed by peasants with less or no school education at all. Such differences as do exist can mainly be attributed to the negative influence of the growing practices of some older illiterate peasants, who openly admit that they "feel too old for these things". It cannot be denied, however, that eight years of primary education does not mark a decisive break-through. From an angle of productive investment, the primary school in the rural area does not pass the test for the greater part of its output, i.e. the school leavers who go into peasant farming. The children are unable to "apply" the acquired knowledge in their daily life.

A few, but perhaps promising restrictions must be made at this point. As the composition of our farmers sample (cf. p.116) shows, the most progressive farmers, those who have attended a course in modern farming methods (S 2), as a rule have at least some years of school education. Furthermore, we noticed during our interviews in Bukumbi, that the only respondents who ever asked us to come back to give further information and advice, were those with st. VIII education. This apparent interest in modern growing practices of these school leavers need not necessarily be the result of school education. It could perhaps be maintained that the individuals who are most receptive to change and new ideas are also the ones who go to school. When it comes to making use of this circumstance in practice, however, this is merely a variant of the old chicken versus egg controversy. The important conclusion is, that many primary school leavers – at least once they are engaged in farming – are apparently interested in modern growing methods. Furthermore, it might well be that the better educated peasants have taken the lead in introducing the improvements that have already been effected (such as closer planting). At any given moment, however, this may not be noticeable in the fields, because the differences are so small and because the other peasants may follow the example when they find the change advantageous.

The main reason why major differences do not occur is that all peasants lack the required knowledge to systematically apply all the recommended growing practices. Almost nobody knew the recommended spacing for cotton or how to apply the purchased artificial fertilizers, or even the recommended time of planting. They had no idea at all of the reasons behind these recommendations, let alone that the married peasants would be able to plan their farming operations in such a way that the necessary changes in the work programme would become feasible. In this respect the knowledge of the primary school leavers was just as insufficient as that of the illiterate peasants.

5. *The role of the extension service.* It is easy now, to blame the extension service. Yet, in the first place it should not be forgotten that considerable progress has been made. The acreage of cotton cultivated has increased enormously. Improvements can be noted also in respect of planting time and spacing. It is true, however, that the activities of the service are spread too thinly. The ordinary peasant practically never sees a field adviser on his farm. The present strength of the extension service is far too small to achieve the necessary improvements in a reasonable period (cf. Hunter, 1967, p.57). Moreover, in view of the lack of qualified personnel, sudden demands made on the service, like in 1964 to staff the 43 block cultivation schemes, must be detrimental for the advisory work done in the villages. If it is the intention of the government to give high priority to rural development – as was stated in the Arusha declaration (1967) – a much larger share of government expenditure must be set aside to attain a more acceptable ratio between the number of field advisers and the peasants . Courses in agriculture for the peasants are badly needed. They can be organized in farmers training centres, but herhaps cheaper and more effectively in the villages, as part of a general adult education programme.

6. *Literacy campaigns and adult education.* Each year the departments of Community Development are busy organizing a great number of literacy classes. In Mwanza district in 1965 over 5,000 adults attended such a course (Dept. C.D. Mwanza district, monthly report March 1965). The results of these classes are poor. Only a small percentage of the adults who attend really become literate (cf. appendix III). Moreover, as the chief organiser of the ministry of C.D. rightly emphasized: "Any literacy programme which is not backed up by a vigorous follow-up programme does not become functional and leads to a colossal wastage of effort in time, manpower and money as the new literates soon lapse back to illiteracy" (Rutashobya, mimeo 1965). Similar statements could be heard at the East African Literacy Training Seminar (Mwanza, 10 - 20 December 1966, cf. report). Here indeed lies the crux of the matter. Especially in the rural areas, the intended follow-up programmes somehow never materialize. The lack of teachers is often mentioned as the prime cause, but undoubtedly much more could be accomplished if the activities of the various government departments such as Community Development, Agriculture, Education and Health, and of the voluntary agencies, notably the R.C. and Protestant missions, would be better co-ordinated.

The "intensive" campaign set up by the Tanzania government with the assistance of UNESCO and the Special Fund in the Mwanza-, Shinyanga-, Mara- and West Lake regions is hoped to improve the situation considerably in this respect. The new approach stresses "work-oriented" literacy, a conception in which reading and writing is only one part of a general adult education programme. It could therefore significantly contribute towards the necessary education of the adult peasant farmers in the project area.

7. *The need for reading matter.* There exists a pressing need for reading matter of all kinds, but especially about farming. Very little is produced at present. What is available are mainly small pamphlets, which contain recommendations, but little information. Lay-out, illustrations and the letter type used are often unfit for new literates. Simple booklets on the various aspects of peasant farming, suitable for new literates and peasant farmers with st.VIII school education or less – as was already asked for by Rounce in 1949 – do not exist. The subjects treated must include not only modern growing methods, but also overall farm planning, simple cost computations, principles of plant growth, the working of fertilizers etc. In addition, specific subjects and relevant recommendations can be emphasized in different ways, such as the issuing of directions for use together with the sale of fertilizers, or the correct spacing and time of planting together with the distribution of cotton seeds by the co-operative societies.

At least equally important is the fact that no adequate system of distribution for the produced reading matter exists. Even the few pamphlets that have been written, very often do not reach the peasants for whom they are intended. The co-operative societies could play a useful role here.

8. *The present role of the primary school.* It is of course true that "Our children will not have an impact on our economic development for five, ten, or even twenty years. The attitudes of the adult in (for example) Sukumaland, on the other hand, have an impact now" (President Nyerere, address to parliament, Tanganyika Five-Year Plan, vol. 1, 1964, p. xi). Yet, at the same time the plan states that "expansion of education . . . . is an economic function; the purpose of Government expenditure on education in the coming years must be to equip Tanganyikans with the skills and the knowledge which is needed if the Development of this country is to be achieved" (Ibid.). As has been discussed, increasingly the primary school leavers go into peasant agriculture, whereas only some 15 per cent is selected for further education. If we ask, whether this majority of the school leavers is equipped with the necessary knowledge to be able to become a successful modern farmer, the answer is clearly negative. This means, that the school is not functional (anymore) in the new situation that has arisen and does not fulfil the requirements quoted here.

In so far as concrete knowledge of modern growing methods is concerned, this is hardly surprising. At present agriculture is not a separate subject in the primary school curriculum. Admittedly, some principles of plant growth have been inserted in the science programme, but this has been done rather unsystematically. Moreover, most of these lessons are never given since the method adopted for these books (Life and Living), generally implies a thorough preparation by the teacher – including e.g. the necessity to ensure the timely availability of young maize plants – or the use of materials such as chemicals that are not available.

More surprising at first sight is the fact that the primary school leavers cannot make simple cost-benefit computations, have no idea of the meaning of credit etc. How poor the results of school education are in this respect, has inter alia been demonstrated by the example of the Bukumbi Credit Union. Yet, these things are vital in modern farming. It is of interest, and most likely more than mere coincidence, that Mrs. Grol found that the achievement of the pupils was extremely poor in mathematics (cf. her forthcoming report). At any rate, the school leavers are clearly unable to put the acquired knowledge into practice.

Furthermore there is the important, yet often neglected field of "procedural knowledge" as Moris (mimeo 1966) calls it i.e. where to go for advice etc. and also how the different institutions function. Lastly we refer to the "Conceptual inventory" (Moris, op. cit.) which is required in modern peasant farming, in which field there is also much to be desired.

9. *Possible other factors which hinder the implementation of modern growing practices.*

If for the moment we suppose that it would be possible to teach the pupils and perhaps primary school leavers modern farming techniques and the necessary conceptual background, the question remains whether it would be possible for them to really implement these techniques on their fields. Would the still largely traditional village community allow them to do as they wish? It is clear, that this factor, in addition to the earlier mentioned lack of knowledge, might have an impact on the observable growing methods.

There is every reason to raise this question. Nobody is completely free to do as he likes, but this holds especially true for people living in a small village community. Two examples may illustrate this for Bukumbi subdivision. When the children leave school, they will sooner or later – depending on their age – be called upon to join the *kisumba* society. Only those who live in the village but have a permanent job are exempted from the communal work which is performed by the *Basumba*, but they are made to pay instead. The membership of the *kisumba* in many villages means regular cultivation work for other peasants during the planting season, so that the members may find it difficult to cultivate their own fields in time. Understandably, quite a few school leavers and other young men object to this custom. They have, however, no alternative but to comply or to migrate. Secondly, there is the widespread fear of witchcraft, which tends to promote conformity rather than revolutionary behaviour. In particular substantial differences in wealth can easily arouse jealousy in the village, which – in the people's ideas – leads to witchcraft. The many cases of already well-established peasant families moving house sufficiently demonstrate the force of this argument (cf. p. 18). Nobody, whether educated or not, can afford to disregard the opinions of his fellow-villagers. If therefore the people in the village are against modern farming practices, it would be very difficult for an individual or a few progressive peasants to implement them.

10. *The attitude of the village community towards modern growing practices in peasant farming.* It is far from easy, if not utterly impossible, for an outsider to evaluate the feelings of the villagers in this respect. One problem is, that the people tend to express themselves in stereotypes, like "Progress is a good thing", or "I like it" (cf. appendix II).

Yet, the enormous increase of the cotton production since 1950 proves that the Sukuma peasants are willing to change. This development has entailed much more than a comparatively simple extension of the cotton acreage. The crop calendar (p. 26) and the comparison between the acreages of the various crops in 1945 and in 1961 (p. 22) reveal something of the major changes in labour input and in the overall cropping pattern of the farms, which the increase of the cotton acreage necessitated. If at present the time of cotton planting is still far from ideal, this cannot merely be "explained" by saying that the peasants are lazy and conservative, or even that they have a high preference for leisure. Their intricate social obligations, viz. the *kisumba* or in case of the death of a villager, the labour requirements of the food crops in the same period, insufficient managerial skills, together with an extremely poor comprehension of the modern growing practices provide sufficient reasons why the peasants still plant too late. Past mistakes of the agricultural extension service (tie-ridging and the use of farmyard manure which was enforced) and the existing misconceptions about closer spacing (p.122) are other examples which make it clear why progress has been slower than agricultural experts may have hoped.

It would appear, that the modernization of cotton growing is, at least in theory, accepted by the great majority of the people. The fact that it is now their own government and no longer the British colonial regime which urges the people to follow the advice of the agricultural extension service has probably had a beneficial effect in this respect and the effect of many years of continuous propaganda begins to make itself felt. At any rate, the situation appears to be such that, if some of the older peasants say that they feel too old to introduce the recommended changes in their own fields, they seem to allow considerable freedom in this respect to the younger generation.

It seems necessary, however, to make a distinction here between cash- and food-crops.

As to the recommended modern cotton growing methods, it can be said that none of these is at present revolutionary for the Sukuma. All existing recommendations are in fact applied and can be observed in the fields. Some people do plant their cotton early December, others do buy artificial fertilizers at the co-operative society. The problem is rather that the recommendations are not systematically applied in combination, which is vital to obtain a doubling of the yields. In respect of food cropping the situation is far more complex. Despite the changes that have taken place in the cropping pattern, the traditional production method is still largely unaltered. The focus of change has been in cash cropping and the subsistence sector has lagged behind in many respects. This holds especially true for the important subject of investment. The idea that artificial fertilizers could be applied in the food shamba is thoroughly foreign to the great majority of the Sukuma. Very few peasants would think of spending money to buy Katumbili maize seed, let alone hybrid maize, which is much more productive than the seed ordinarily used by the peasants. Besides, the necessary modernization of the subsistence sector may entail the change-over from mixed cropping to pure cropping and consequently a completely new farm planning has to be introduced. It is clear therefore, that the required changes in the subsistence sector will be far more difficult to accomplish and that an individual who wishes to implement the advice available for the chief food crops, is in a much more difficult position in the village.

10. *Consequences for agricultural extension and training*. In respect of the primary school leavers and other young men, this last consideration is largely irrelevant. The reason is obvious: until they marry they will not grow any food crops. They do, however, have their own cotton fields, in which they can more or less do as they like. This is important, because it means that – even when still at school – they can apply their newly acquired knowledge. The much dreaded gap between the years of education and the first opportunity to apply the newly acquired knowledge does not exist in Sukumaland. Furthermore, provided proper training and guidance is given, there is reason to believe that the children will indeed apply the new techniques. Admittedly, their cotton fields are only small and therefore the instruction of the young children might not immediately result in a major increase of the cotton production in Sukumaland. Yet, the investment seems worthwhile. In the first place a number of scattered and well-cared for cotton fields may have an appreciable extension effect in the villages. Secondly, farming would become more attractive and this could have a mitigating effect on migration. Lastly, in the long run, i.e. after marriage, the benefits will be much greater. It can also reasonably be expected that these peasants will be more open to the advice of the extension service to modernize their subsistence production.

Nevertheless a few restrictions appear indicated at this point. By suggesting that modern growing methods have – in theory – been accepted by the people in Bukumbi, we do not wish to imply that any individual, whether an established peasant farmer or a young school leaver, could easily implement these practices. Earlier in this chapter we referred to the existing tendency towards conformity in the village community and the jealousies aroused by substantial differences in wealth. Thus it needs little imagination to fear that e.g. the higher cash returns of a young school leavers who has adopted the modern techniques could easily lead to hard feelings with his age companions. The boy might well decide to apply more traditional methods the following year. This is also the reason why even an excellent curricular teaching of agriculture in the primary school may have little immediate effect on the crop husbandry techniques employed by the children and school leavers. Therefore the agricultural extension service (and the school) would be well-advised not to address one or two "promising" individuals in a village – especially when dealing with young children and school leavers – but whenever possible to work through a fairly large group in the village. There are many groups in a Sukuma village, ranging from the obligatory *kisumba* society to a voluntary *ilika* of school children and their non-school going age companions. If necessary, a "Young Farmers Club" could be established. It is clear that if the members of such a group can be persuaded to accept the modern growing techniques, there is no danger of isolation.

As to married peasants, the subsistence production is likely to remain the chief stumbling block for some time to come. Even if the education of the peasants in this field is given much more attention then at present, the realization of the necessary changes will take a long time. This is no reason to neglect this side of peasant farming, on the contrary, but no quick success can be reasonably expected. To some extent, cotton growing is also affected, because of the labour requirements of the food crops. Until a better farm plan exists – and is accepted by the peasants – at least some additional hired labour or mechanical traction will be unavoidable to meet the requirement of earlier planting. As our computations (p.126) indicated, the introduction of modern growing techniques remains highly profitable for the peasants, even if this additional labour is accounted for. A more intensive approach of the agricultural extension service, if possible in combination with "work oriented" adult education campaigns could therefore contribute significantly towards the desired intensification and modernization of cotton growing and help to prepare the ground for the reform of the subsistence production. Indeed, as Lewis (1955, quoted by Hunter, in: Sheffield (Ed.), 1967, p.35-53) pointed out: "Expenditure on bringing new knowledge to peasant farmers is probably the most productive investment which can be made in any of the poorer developing countries".

11. *Agriculture and the primary school.* We do not intend to repeat extensively all argu-

ments pro or contra the teaching of agriculture in the primary school. An evaluation of the various opinions is, moreover, outside our competence. The opponents can indeed point to many failures (cf. Griffith, Kericho Conf. 1966 and Wingfield, mimeo 1966 for some recent comment in East Africa). More significant perhaps is the fact that the previous attempt in Tanzania – in the 1950s – to teach agriculture in the middle schools proved to be a failure and was discontinued. The causes were carefully recorded by Fuggles-Couchman (1956), long before the subject was actually dropped from the curriculum. As Moris (Kericho Conf. 1966) aptly commented: "The overall conclusion of the Report was to the effect that while the syllabus was excellent and feasible, this was not enough by itself. Until there were also professional teachers for the subject, textbooks, examinations, a fully aware inspectorate, land and the backing of educators and Headmasters, no final judgement could be passed. In the entire inquiry, however, only one individual could be found who claimed that the subject per se was inappropriate to primary education". At any rate, this previous experience in Tanzania should warn against underestimating the existing difficulties. In particular political pressure, as is apparent in Tanzania, can easily lead to a rash decision and implementation.

12. *Some final remarks.* Anyone who analyses the situation today, must come to the conclusion, that the primary school provides too little knowledge which is relevant to life and work in the rural community. We wish to emphasize here, that there is a fundamental difference with the situation only a few years ago. Before Independence the st.VIII leavers who were not selected for further education could, almost without exception, find paid employment, often as "white-collar" workers. Today this is no longer so. For a long time to come, the great majority of the primary school leavers will have to make their living on the land, as self-employed peasant farmers. Consequently, the primary school must adapt its teaching to this new situation.

It is perhaps true as Callaway (1961) remarked, that "No amount of education by itself – whether in primary or in post-primary schools – can make modern farmers". On the other hand, it is difficult to see, how primary school leavers can adopt modern crop husbandry practices if they do not possess the relevant knowledge, both of the agricultural techniques and – even more important – of the basic principles underlying these techniques.

This is not a demand for the (re)introduction of agriculture as a subject in the primary school curriculum, at least not in the first place. Much more important in our view is the fact that, as our investigations have demonstrated, the school leavers cannot apply their acquired knowledge and are deficient in a number of basic abilities which are crucial in modern peasant farming. Thus a good farmer must know how much exactly 18" is, an acre of land, or how many five foot ridges of 50 yards length make one acre. He must have a a sound idea of the meaning of credit and be able to make simple cost-benefit computations relevant to his farm and possess an extensive "conceptual inventory" related to modern farming. If primary education is seen as an economic function – as in the Five-Year Development Plan – it must in the first place disseminate the type of knowledge which can help the children to become progressive farmers, and not merely to "pass" the General Entrance Examination. Whether this is a question of better teaching or whether changes in textbooks, teacher manuals and curriculum are also required, is quite a different matter, which is the problem of the educationalists responsible.

Appendix I: *Literacy test applied in Mwanza town and Bukumbi subdivision*

Name interviewer: ....

Questionnaire number: ....

HAYA SOMA MASWALI HAYA KWA SAUTI NA UANDIKE MAJIBU YAKE:

1. Unakula mara ngapi kwa siku? ....
   ....

2. Leo ni siku gani? ....
   ....

3. Kwa kawaida waamka ngapi asubuhi? ....
   ....

HAYA SOMA MASWALI HAYA KWA SAUTI NA UANDIKE MAJIBU YAKE:

1. What two things do cows give us? ....
   ....

2. How many chairs are in this room? ....
   ....

3. What do fishermen use to catch fish? ....
   ....

Appendix II: *Additional tables from Bukumbi survey*

A. *Bukumbi survey, statement of respondents on newspaper reading*

	Males		Females	
	Abs.	%	Abs.	%
Total number of literate respondents	493	100.0	195	100.0
Claimed to have read:				
One paper during the past week	47	9.5	24	12.3
More paper " " " "	43	8.7	6	3.1

B. *Bukumbi survey, newspapers mentioned by respondents*

Mwafrika ')	11	Standard	13	Ukulima wa kisasa ")	19
Kiongozi	67	Nyota	1	Sunday News	2
Uhuru	17	Drum	2	Siku hizi	1
Baraza	14	Nationalist	1	Lumuli '")	1
Taifa	8	Nchi yetu	1	Other newspapers	13

') Last issue of Mwafrika appeared on December 30, 1964. The interviews were held in May – June 1965 (!).
")= Modern farming.
'") Last issue published several years ago.

C. *Bukumbi survey, books stated by respondents, according to subject matter*

	Males	Females
Religious (bibles, hymn books, missals etc.)	100	23
Kiswahili teaching (incl. dictionaries)	28	6
Various educational subjects (Kiswahili)	37	10
Other books in Kiswahili	40	11
English teaching (incl. dictionaries)	60	5
Various educational subjects (English)	41	4
Other books in English	19	3

D. *Bukumbi survey, owning of books and frequency of reading claimed* ')

	Males		Females	
	Abs.	%	Abs.	%
People owning books	168	16.1	44	4.2
of which:				
Read one book during the past month	50	4.8	10	1.0
" more books " " " "	46	4.4	10	1.0
People not owning books	878	83.9	997	95.8
of which:				
Read one book during the past month	38	3.6	18	1.7
" more books " " " "	23	3.2	16	1.5

') All percentages taken from total number of respondents.

E. *Bukumbi survey, tribes recorded, not specified in table III-2*

Kerewe and Kara: No Kara were interviewed in Bukumbi.
Tribes Mara region: Jita (10), Kabwa (17), Kuria (15), Shashi (14), Suba (1) and Zanaki (9).
Other tribes Tanzania: Arusha (1), Bena (1), Digo (1), Doe (7), Gogo (8), Ha (43), Hangaza (1), Iramba (5), Jomba (1), Kimbu (1), Nyanja (1), Nyaturu (6), Pangwa (1), Rongo (6), Rufiji (1), Subi (8), Sumbwa (14), Yao (1), Zaramo (2).
Other tribes Kenya: Luyia (7) and Nandi (2).
Tribes Uganda: Acholi (1), Ganda (2), Soga (4), Teso (4).
Tribes other countries: Bemba (1), Bembe (1), Kusu (1), Mambwe (1), Manyema (9), Rundi (11), Rwanda (9), Sudanese (4) and Tusi (7).

F. *Bukumbi survey, place of birth of respondents*

	Males	Females	Total	
	Abs.	Abs.	Abs.	%
No data	2	5	7	0.3
Same kibanda	298	291	589	28.2
Same gunguli	42	67	109	5.2
Bukumbi subdivision	96	100	196	9.4
Mwanza district	215	291	506	24.4
Kwimba-, Maswa-, Shinyanga district	150	142	292	14.0
Geita district	15	20	35	1.7
Tabora region	30	31	61	2.9
Other Tanzania	153	72	225	10.8
Other countries	45	22	67	3.2

G. *Bukumbi survey, kind of present marriage of respondents*

	Males	Females
Not applicable (not married)	401	407
Brideweallth paid (Kisukuma: Kukwa)	531	508
No bridewealth paid (Kisukuma: Witoji wa dalali)	85	96
By inheritance (Kisukuma: Kwingila)	5	6
Temporary (Kisukuma: Kulehya)	16	19
No data	8	5

H. *Bukumbi survey, population in sample, age and number of marriages concluded*

a. *Males:*

	No data	10-14	15-19	20-24	25-29	30-39	40-49	50-59	60+
Never married	1	123•	105	73	25	13	1	3	2
Married:									
First time	–	–	8	61	93	119	73	40	25
Second time	–	–	–	4	24	46	45	22	32
Third time	–	–	–	–	4	11	9	5	7
More often	–	–	–	–	4	2	7	2	2
Married previously:									
Once	–	–	1	4	8	16	13	3	5
Twice	–	–	–	–	2	–	–	1	1
Three times	–	–	–	–	–	–	–	1	–

b. *Females:*

	No data	10-14	15-19	20-24	25-29	30-39	40-49	50-59	60+
Never married	–	149	74	19	9	1	4	3	3
Married:									
First time	2	2	70	83	77	92	59	28	14
Second time	2	–	1	20	39	56	30	21	5
Third time	–	–	–	4	6	9	6	3	–
More often	–	–	–	–	1	2	1	1	–
Married previously:									
Once	1	–	2	10	14	18	30	23	30
Twice	–	–	–	1	2	5	3	1	3
Three times	–	–	–	–	–	–	–	–	1
More often	–	–	–	–	–	1	–	–	–

I. *Bukumbi survey, possession of cattle and certain goods*

	Males		Females	
	Abs.	%	Abs.	%
Bicycle	153	14.6	7	0.7
Radio	26	2.5	8	0.8
Bicycle + radio	33	3.2	1	0.1
Sewing machine	8	0.8	1	0.1
Motor bike or car	8	0.8	–	–
Goats and/or sheep	15	1.4	14	1.3
Bicycle + cattle	87	8.3	–	–
Bicycle + goats/sheep	7	0.7	1	0.1
Cattle	53	5.1	14	1.3
Cattle + goats/sheep	44	4.2	7	0.7
None	612	58.5	988	94.8

J. *Bukumbi survey, age structure of respondents who attended a literacy course*

	Males	Females
10 - 19 years	2	7
20 - 29 "	10	16
30 - 39 "	13	11
40 - 49 "	9	10
50 - 59 "	5	2
60 years and over	4	–

K. *Bukumbi survey, educational standard of Sukuma and non-Sukuma respondents*

	Sukuma				non-Sukuma			
	Males		Females		Males		Females	
	Abs.	%	Abs.	%	Abs.	%	Abs.	%
No school education	403	52.1	660	75.6	125	46.0	125	74.4
Less than st.IV	141	18.2	87	9.8	37	13.6	12	7.1
St.IV	119	15.4	90	10.3	51	18.8	17	10.1
St.V-VII	74	9.6	29	3.3	34	12.5	10	6.0
St.VIII	23	3.0	6	0.7	17	6.2	2	1.2
Over st.VIII	14	1.8	1	0.1	8	2.9	2	1.2

L. *Bukumbi survey, respondents not at school, suggestions for (Community) Development*

	Males	Females
No idea, I don't know etc.	558	736
It is nice, I like it, a good thing etc.	234	151
More education/schools needed	14	6
Economic development of the country	20	34
Agricultural development	31	8
More adult education/literacy classes	20	34
Higher income desired	30	5
Dissatisfied with present situation	17	5
Various other comments	7	–
No data	6	7

M. *Bukumbi survey, houses in sample and their (principal) occupants*

	Males	Females
Single house:		
Family, house shared with others	34	8
Same, not shared	294	32
All occupants unmarried/not living with wife or husband *)	52	7
Part of compound:		
Family, shared with others	12	6
Head of compound and family	135	10
Second wife	–	11
Widow	–	19
Sons and other patrilineal relatives	97	29
In-laws	33	3
Others	12	6

*) Of which 41 in labour camp of Ng'walugwabagole ginnery.

N. *Bukumbi survey, type of roofing in various categories of shibanda*

	Corrugated iron	Madebe	Grass
Usagara	44	4	37
Kakora and Nyamanoro	29	1	68
Labour camp of ginnery	41	–	–
Agricultural shibanda	85	4	488

Appendix III: *Additional tables from Mwanza town surveys*

A. *First Mwanza town survey, statement of respondents on newspaper reading*

	Males		Females	
	Abs.	%	Abs.	%
Total number of literate respondents	713	100.0	296	100.0
of which claimed to have read:				
One paper during the past week	206	28.9	82	27.7
More papers " " " "	257	36.0	49	16.5

B. *First Mwanza town survey, newspapers mentioned by respondents*

Mwafrika ')	207	Drum	30	Reporter	10
Kiongozi	186	Nationalist	28	Sunday News	6
Uhuru	130	Nchi yetu	16	Economist	4
Baraza	100	Nguruma	16	Kesho	4
Taifa	100	EA Standard	11	Siku hizi	4
Standard	94	Ukulima wa kisasa	11	Uganda Argus	4
Nyota	73	Nation	10	Others ")	25

') Last issue appeared on December 30, 1964. The interviews were held in March 1965.

") Including three respondents who mentioned Lumuli and Mambo leo, which papers have not appeared for several years.

C. *First Mwanza town survey, books stated by respondents, according to subject matter*

	Males	Females
Religious (bibles, hymn books, missals etc)	120	34
Kiswahili teaching (incl. dictionaries)	66	34
Various educational subjects (Kiswahili)	23	9
Other books in Kiswahili (tribal languages)	165	33
English teaching (incl. dictionaries)	144	31
Various educational subjects (English)	173	36
Other books in English	104	17

D. *First Mwanza town survey, owning of books and frequency of reading claimed* ')

	Males		Females	
	Abs.	%	Abs.	%
People owning books	386	40.6	125	15.2
of which:				
Read one book during the past month	121	12.7	40	4.8
" more books " " " "	157	16.5	40	4.8
People not owning books	566	59.4	700	84.8
of which:				
Read one book during the past month	29	3.0	15	1.8
" more books " " " "	36	3.8	12	1.5

') All percentages refer to total number of respondents.

E. *First Mwanza town survey, place of birth of respondents*

	Males	Females	Total	
			Abs.	%
No data	1	1	2	0.1
Mwanza town	123	172	295	16.6
Mwanza district	66	91	157	8.8
Kwimba-, Maswa-, Shinyanga district	100	64	164	9.2
Geita and Ukerewe, Ukara	76	83	159	8.9
Tabora region	114	113	227	12.8
Mara region	97	47	144	8.1
West Lake region	91	86	177	10.0
Other Tanzania	198	102	300	16.9
Kenya and Uganda	58	47	105	5.9
Other countries	28	19	47	2.6

F. *Second Mwanza town survey, kind of present marriage of respondents .*

	Males	Females
Not applicable (not married)	382	305
Bridewealth paid	434	403
No bridewealth paid	112	111
Temporary	28	29
No data	4	–

G. *Second Mwanza town survey, number of marriages concluded*

	Males	Females
Never married	315	149
Married:		
First time	378	324
Second time	155	191
Third time and more often	31	19
No data	14	8
Married previously:		
Once	56	128
Twice and more often	11	26
No data	–	2

H. *Second Mwanza town survey, age structure of unmarried respondents*

	Males		Females	
	Abs.	%	Abs.	%
10 - 19 years	172	45.8	138	45.2
20 - 24 "	95	24.9	14	4.6
25 - 29 "	56	14.7	25	8.2
30 - 39 "	23	6.0	31	10.2
40 - 49 "	11	2.9	17	5.6
50 -.59 "	12	3.1	34	11.1
60 years and over	13	3.4	46	15.1

I. *Second Mwanza town survey, possession of cattle and certain goods*

	Males		Females	
	Abs.	%	Abs.	%
None	524	54.6	762	89.8
Bicycle	75	7.8	7	0.8
Radio	158	16.5	42	4.8
Bicycle + radio	73	7.6	2	0.2
Sewing machine	8	0.8	7	0.8
Sewing machine + radio/bicycle	27	2.8	5	0.6
Motorbike + radio	3	0.3	–	–
Motorbike + radio + sewing machine	1	0.1	–	–
Car	2	0.2	–	–
Car + radio/bicycle	10	1.0	1	0.1
Car + radio + sewing machine	3	0.3	–	–
Car + radio + refridgerator + sewing machine	2	0.2	–	–
Car + radio + refridgerator	1	0.1	–	–
Cattle (sheep/goats)	30	3.1	13	1.5
Cattle + radio	11	1.1	1	0.1
Cattle + radio + bicycle	10	1.0	–	–
Cattle + bicycle	5	0.5	–	–
Sheep/goats	7	0.7	8	0.9
Cattle + bicycle + radio + sewing machine	2	0.2	–	–
Cattle + radio + sewing machine	2	0.2	–	–
Cattle + motorbike + radio	1	0.1	–	–
Refridgerator	1	0.1	–	–
Refridgerator + bicycle + radio + sewing machine	1	0.1	–	–
Refridgerator + bicycle + radio	3	0.3	–	–

J. *First Mwanza town survey, literacy test results of respondents who attended a literacy course*

	Reading		Writing	
	Abs.	%	Abs.	%
Not tested (literacy not claimed)	114	57.0	131	65.5
Unable to read/write	13	6.5	15	7.5
Had major difficulties	35	17.5	35	17.5
Had no major difficulties	38	18.0	19	9.5

K. *First Mwanza town survey, age structure of respondents who attended a literacy course*

	Males	Females
10 – 19 years	4	11
20 – 29 "	18	74
30 – 39 "	20	36
40 – 49 "	7	13
50 – 59 "	6	6
60 years and over	3	2

L. *First Mwanza town survey, educational standard and tribal composition*

	No school education		< st.IV		St.IV		St.V-VII		St.VIII		Over st.VIII	
	M	F	M	F	M	F	M	F	M	F	M	F
Sukuma	65	145	40	33	29	22	37	20	26	5	32	4
Nyamwezi	33	69	31	17	17	4	18	9	8	2	4	–
Kerewe & Kara	17	33	5	5	7	5	8	3	4	2	1	–
Tribes Mara region	19	40	16	8	26	3	21	5	6	–	10	–
Haya	9	36	11	13	19	9	20	9	5	2	14	3
Zinza	9	23	7	1	1	3	1	3	1	–	–	–
Other Tanzania	44	73	53	28	36	27	46	12	25	5	22	6
Luo	8	11	7	7	7	6	10	3	7	1	6	–
Other Kenya	3	9	2	–	3	3	6	1	–	1	2	–
Tribes Uganda	3	8	2	2	2	2	2	2	2	1	2	–
Other countries	17	42	17	14	11	5	9	5	1	1	7	1
No data	2	8	4	2	–	–	1	–	4	2	2	–

M. *Second Mwanza town survey, principal occupants of room(s)/houses in sample, ownership status, and religious affiliation*

	House owned		No rent paid		Rent paid		No data	
	M	F	M	F	M	F	M	F
No data	–	–	–	–	4	2	–	1
Traditional (No)	4	4	5	–	40	2	1	–
Protestant	9	4	15	2	92	15	1	–
Catholic	23	5	24	4	213	42	4	–
Moslem	77	39	40	22	192	45	4	1

N. *Second Mwanza town survey, educational standard and cultivation of a shamba (principal occupants of room(s)/houses only)*

	Shamba in town		Shamba in home village		Shamba elsewhere		No shamba cultivated	
	M	F	M	F	M	F	M	F
No school education	24	20	50	18	5	7	138	90
Less than st.IV	7	1	24	–	4	1	68	18
St.IV	6	1	34	2	4	–	96	5
St.V–VII	8	1	35	4	4	–	93	10
St.VIII	3	–	21	–	3	–	47	5
Over st.VIII	3	1	11	1	1	–	59	3

Appendix IV: *Job preference test (English translation)*

This time we should like to know about what you want to do after completing st.VIII. As you know, this is not an examination, so nobody can pass or fail.

There are only a few questions. For most questions it is sufficient to put a small tick in the box of the answer you prefer (like ☑). Please read carefully and do not hurry, there is enough time to finish.

Your name: ....
What kind of work has your father? ....

---

1. Do you hope to continue your education in secondary school after completing st.VIII? ☐ Yes ☐ No

2. What do you think your chances of being selected for secondary school really are?
   - ☐ I am practically sure to be selected;
   - ☐ I have a good chance to be selected;
   - ☐ If I am a bit lucky, I might be selected;
   - ☐ I do not think I shall be selected;
   - ☐ I am sure I shall not be selected;

3. Now suppose that you are not selected for secondary school. Here we have listed a number of jobs that people can have. Please say of each job whether you *like it very much*, or *like it*, or *do not mind*, or *do not like it*, or *do not like it at all*, and put a tick in the right box

	Like it very much	Like it	Do not mind	Do not like it	Do not like it at all
Bricklayer					
Hotel servant					
Shop assistant					
Driver					
Primary school teacher					
Garage mechanic					
Secretary primary society *)					
Carpenter					
Tax collector					
Shopkeeper					
Government clerk					
Village headman *)					
Office messenger					
Farmer					
Unskilled labourer					
Typist					
NUTA Branch secretary					
Policeman					
Medical assistant					
Tailor					
Tractor driver					
TANU Branch secretary					
Petrol pump boy					
House boy					

*) This job was only given in the rural area.

4. Which of the just mentioned jobs do you like best of all
(mention one kind only!) ....

Please give reasons why you prefer this job:...
....
....

5. Which of the just mentioned jobs do you like least of all
(mention one kind only!) ....

Please give reasons why you do not like this job:...
....
....

Appendix V: *List of tribes recorded in both Mwanza surveys (non-specified tribes only)* ')

Kerewe and Kara:								
Kerewe	74	73	Kara	16	5			
Tribes Mara region:								
Hacha	1	1	Kabwa	4	4	Shashi	7	8
Ikizu	2	5	Kuria	36	31	Suba	16	21
Ikoma	2	–	Musuma	1	–	Tegi (?)	1	–
Jita	69	80	Nguruimi	3	2	Zanaki	12	11
Other tribes Tanzania:								
Bena	2	4	Makua	–	3	Rimi	2	2
Bende	–	2	Masai	2	1	Rongo	1	5
Bondei	5	6	Matumbi	2	1	Rufigi	–	1
Chagga	14	18	Mbunga	–	1	Safwa	3	2
Doe	3	2	Mbugwe	1	–	Sagara	3	–
Digo	3	–	Mwera	5	3	Sambaa	6	2
Fipa	14	16	Ndamba	–	1	Sangu	2	1
Gogo	4	6	Ndengereko	1	1	Segeju	2	1
Ha	41	33	Ngindo	6	1	Subi	14	13
Hangaza	16	9	Ngoni	15	21	Sumbwa	23	18
Hehe	20	16	Nyakyusa	17	11	Swahili	2	3
Iramba	22	22	Nyamwanda	5	4	Tongwe	–	1
Kilosa ")	3	3	Nyiha	–	1	Wanji	1	–
Kimbu	3	2	Pangwa	9	10	Wanyasa	13	12
Kinga	1	2	Pare	11	6	Yao	19	17
Konongo	2	4	Pimpwe	4	3	Zaramo	15	16
Luguru	15	13	Pogoro	2	5	Zigua	19	17
Makonde	1	2	Rangi	2	1			
Other tribes Kenya:								
Gusii	3	4	Luyia	17	24	Nyika	2	1
Kamba	6	5	Meru	–	1	Swahili	3	1
Kikuyu	5	3						
Tribes Uganda:								
Ganda	23	29	Lugbara	–	1	Nyoro	2	1
Kakwa	–	2	Nkole	1	1	Teso	2	2
Tribes other countries:								
Atyeno (?)	–	1	Henga	2	2	Rundi	6	7
Bangubangu	2	2	Lega	–	1	Rwanda	18	19
Bemba	3	3	Kasai	1	–	Sudanese	14	19
Bembe	2	2	Kongo	1	1	Tumbuka	–	1
Budu	–	2	Kusu	1	1	Twa	1	–
Chotola (?)	–	1	Manyema	42	46	Tusi	3	5
Bwari	10	11	Mhabeshi (?)	4	5	Vira	3	5
Binja	1	–	Mlofe (?)	1	1	Zuhamu (?)	–	1
Halfcaste	7	8	Mulunga	–	2			

') The first column refers to the first Mwanza town survey, the second column to the second survey.

") District name used by Swahili (?). Tribes mentioned for Kilosa district in Molnos (1965, p.297): Baraguyu, Kaguru, Kwiva, Sagara and Vidunda.

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TNR = Tanganyika Notes and Records.
EAAJ = East African Agriculture (and Forestry) Journal.

CURRICULUM VITAE

De schrijver van dit proefschrift werd op 4 december 1936 geboren te Oosterbeek, gemeente Renkum. In 1954 behaalde hij het H.B.S.-A diploma aan de Chr. H.B.S. (nu Lyceum) te Apeldoorn, waarna hij zijn militaire dienstplicht vervulde. Van 1956 tot 1964 studeerde hij sociale geografie aan de Rijksuniversiteit te Utrecht. Tijdens zijn studie was hij een jaar werkzaam als veldassistent bij het Demografisch Onderzoek op West Nieuw Guinea. Op 1 april 1964, na het doctoraal examen, werd hij benoemd als wetenschappelijk ambtenaar bij het Instituut voor Volkenkunde te Utrecht. Van december 1964 tot april 1967 werd onderzoek verricht voor het Centrum voor de Studie van het Onderwijs in Veranderende Maatschappijen (Amsterdam) in het Mwanza district (Tanzania), waarvan dit proefschrift de resultaten bevat. Sinds 1 januari 1968 is hij verbonden aan het Geografisch Instituut van de Utrechtse Universiteit.